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A STUDY OF IMPACT OF DIGITALIZATION ON GROWTH OF LIFE INSURANCE CORPORATION OF INDIA (LIC) AND SBI LIFE INSURANCE CO. – ANALYSIS OF MANAGEMENT SOUNDNESS

Dr. Mittal J. Shah

Assistant Professor,

Ghanshyamdas Saraf College of Arts & Commerce,

Malad West, Mumbai

Abstract

Digitalization in the Insurance sector has constantly played a very imperative role in the operations of every insurance company. The swift innovation in the area of information and communication technology has stood with serious challenges for the insurance industry in India. Digitalization has facilitate insurance companies to collect premium easily and reduce operating cost. Sound management is crucial for the financial stability of insurers. It is very difficult; however, to find any direct quantitative measure of management soundness, the indicator of operational efficiency is likely to be correlated with general management soundness. Unsound efficiency indicators could flag potential problems in key areas, including the management of technical and investment risks. The efficient management shall reflect in operating expenses, and gross premium, affecting overall operating efficiency of the insurance concerns, reflecting management soundness. Thus, the research paper is an attempt to examine impact of digitalization on growth of Life Insurance Corporation of India (LIC) and SBI Life Insurance Co. Ltd by analyzing management soundness of both the companies.

Keywords: *Life Insurance, Life Insurance Corporation of India, SBI Life Insurance Company Management Efficiency, digitalization*

Introduction:

Insurance companies provide unique financial services for the growth and development of every economy. Before the independence period in India, Life Insurance was with private Insurance operators. However, soon after independence, the Government of India nationalized Life Insurance Corporation of India (LIC) which was doing well in life insurance business.

The insurance industry is familiar with the new social reality that is taking place. The clients, policyholders, and employees of entities are becoming increasingly digital. Adapting to the situation and meeting new customer expectations, based on digital interactions, the demand for new services and products, and an improved experience,

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are probably the biggest industry challenges.

The digital transformation must be based on defining a strategy and the *roadmap*, and then ensuring the effective execution of the digital initiatives that improve and adapt key aspects of entities' value chains.

Customers increasingly prefer insurance companies that offer a seamless experience that helps them complete transactions almost instantly. Technology has enabled insurers to scale up their services by improving their operations, streamlining procedures and reducing cost.

Digital transformation in the insurance industry has led to efficiencies in its operations through Artificial Intelligence (AI), machine learning and predictive analysis.

Evaluation of financial soundness and performance is a continuous process of regulator, rating agencies, Securities Board, financial analysts, ombudsman and independent whistle blower for the protection of customers and economy at a large. Couples of techniques are in practice to evaluate financial soundness out of which the technique of Ratio analysis is widely used.

A particularly interesting form of financial performance analysis of insurance companies is the analysis of management efficiency. Management efficiency means adherence with the norms, ability to plan and respond to changing environment and administrative capability of the companies. The efficient management shall reflect in operating expenses, and gross premium, affecting overall operating efficiency of the insurance concerns, reflecting management soundness.

Objectives of the Study:

The main objectives are as under.

1. To study impact of digitalization on the management soundness of Life Insurance Corporation of India (LIC) and SBI Life Insurance Company.
2. To analyze the growth pattern of management soundness of the Life Insurance Corporation of India (LIC) and SBI life insurance company.
3. To analyze consistency in the management soundness of Life Insurance Corporation of India and SBI life insurance company.

Hypotheses of the Study:

H_0: There is no significant difference between management soundness of Life Insurance Corporation of India (LIC) and SBI Life Insurance Company.

H_1: There is a significant difference between management soundness of Life Insurance Corporation of India (LIC) and SBI Life Insurance Company.

Scope of the Study:

This study has analysed management soundness of only two life insurance companies. Future research studies may be conducted for all life insurance and non-life insurance companies. It can help actuary team and accounting team of LIC and SBI life insurance company to analyse company's performance by CARAMEL parameter. It can help agents and marketing department of LIC and SBI life insurance company to take required steps to maximize the profit of the respective company

Limitations of the Study:

The present study faced by certain limitations during the course of research. They are as follows the study covers two life insurance companies' one public company (LIC) and one private company (SBI life insurance co.).

1. The study cover period from 2004 to 2014.

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2. In lieu with the topic of research study the entire data analysis was done based on only the secondary data.
3. To analyse management soundness formulas of CARAMEL are taken from the IMF working paper.
4. These indicators include the use of those quantitative factors which affect the financial position of a life insurance company. Only those indicators are selected which are appropriate for the study. The selection of indicators is based on their analytical significance, availability of data for compilation, calculation and its relevance for the study.
5. Ratios are in percentage.

Research Methodology:

Period of the Study:

Study has covered period starting from year 2004 to 2014.

Techniques of Data Collection:

For the study both primary and secondary data are used.

The collection of primary information is through:

A) Personal investigation method asking

- Experts,
- Insurance Agents, Actuary Department Of Insurance Companies,
- Analyst,
- Chartered Accountant,
- Auditors.

B) The relevant and required secondary data was collected from

- Annual Reports of Life Insurance Corporation of India (LIC),
- Annual Reports of SBI Life Insurance Co.,
- Annual Reports of IRDA,
- Journals,
- Research Papers
- Articles
- Websites,
- Books
- Thesis

Research Technique for Data Analysis:

The Management Soundness of Life Insurance Corporation of India (LIC) and SBI Life Insurance Company can be measured by a number of indicators. To study management soundness of LIC and SBI life Insurance Company following parameters are used.

Testing of Hypotheses:

Management Soundness was statistically tested with the help of statistical tools, viz.

- Mean,
- Standard deviation to know the consistency of the financial performance,
- T-test for equality of means,
- Levene's Test for equality of Variances,
- Regression is used for forecasting, time series modeling and finding the causal effect relationship between the variables, to know growth pattern of the financial performance.
- To know the growth pattern
  a) Linear Regression
  b) Quadratic Regression and
  c) Cubic Regression are also analysed.

Year is taken as independent variable. Dependent variables are

1. Gross Premium to Number of Employees ratio
2. Total Assets to No. of Employees (Asset per Employee) Ratio

Caramel Model:

Evaluation of the management soundness is based on the CARAMEL framework, had proposed by Das, Davies and Podpiera (2003) later duly was

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endorsed by IMF for adoption of regulatory and supervisory body as an individual parameters.

Capital Adequacy Analysis

Asset Quality Analysis

Reinsurance and Actuarial Issues (Risk Retention Analysis)

Management Soundness Analysis

Earning and Profitability analysis:

Liquidity

Review of Literature:

Das, Davies and Podpiera (2003) propose **CARAMELS** (Capital Adequacy, Assets quality, Reinsurance and Actuarial Issues, Management Soundness, Earnings and Profitability, Liquidity and Sensitivity with Market Risk) parameter to assess the financial health and soundness as well as to evaluate the financial performance of insurance companies. The objectives and meanings CARAMELS parameters and financial indicators used for analysis are discussed.

Smajla N Analysed financial soundness of life and non life insurance companies by using **CRAMELS** Model in Croatia for the year 2011. He concluded that Insurance regulatory authority of Croatia, Croatian Financial Services Supervisory Agency should pay proper attention to capital adequacy and liquidity indicators of insurance companies, and their management soundness because these categories pay major role in total financial soundness of the sector.

Management Soundness:

A particularly interesting form of financial performance analysis of insurance companies is the analysis of management efficiency. Sound management is crucial for financial stability of insures. It is very difficult; however, to find any direct quantitative measure of management soundness, the indicator of operational efficiency is likely to be correlated with general management soundness. Unsound efficiency indicators could flag potential problems in key areas, including the management of technical and investment risks. The two indicators gross premium per employee and Assets per employee. Gross premiums are used because they are a reflection of the overall volume of business activity. The analysis reflects the efficiency in operations, which ultimately indicates the management efficiency and soundness. It also needs to be taken into account that insurers may use different distribution channels to sell their products and sometimes may spin off their distribution into subsidiaries or other companies in a group.

In order to analyse statistically, the management soundness of insurance companies following two ratios have been analyzed:-

i. **Gross Premiums/ Number of Employees**
ii. **Assets per employee = (Total Assets/No. of Employees)**

i) Gross premium to number of employees:

Premium collection is generally task of agents but effective mobilization of all marketing channels depends on staffs force. Higher amount per employees reflects the better efficiency of management

ii) Assets per employee:

This ratio measures how much assets handle by per employee. Higher the ratio means more efficient the firm. Table depicts that the trend was increasing over the period for both the companies means that management efficiency also increasing.

Findings of Analysis of Management Soundness:

H_0: There is no significant difference between management soundness of Life Insurance

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Corporation of India (LIC) and SBI life Insurance Company.

H_1: There is significant difference between management soundness of Life Insurance Corporation of India (LIC) and SBI life Insurance Company.

Table 1.5 Analyses of Management Soundness Ratio

RATIO		Company	N	Mean	Std. Deviation
Gross Premium / Number of Employees*100		LIC	11	14658.381169	4575.4916802
		SBI	11	1442138.068443	206252.3293838
Total Assets / No. of Employees*100 (Asset per Employee)		LIC	11	97800.265998	43353.2583490
		SBI	11	4161388.509000	2322912.4228105

RATIO	Levene's Test for Equality of Variances		t-test for Equality of Means		
	F	Sig.	t	Df	Sig. (2-tailed)
Gross Premium / Number of Employees*100	34.567	.000	-22.949	10.010	.000
Total Assets / No. of Employees*100 (Asset per Employee)	65.213	.000	-5.801	10.007	.000

Source: Compiled from Annual Reports of companies under study.

Interpretaion:

Table predicts the management soundness which prevails in LIC and SBI Life Insurance Co. in India. For Gross Premium / Number of Employees ratio P – Value is .000 i.e. < = 0.005 it means there is significant difference between the standard deviation of LIC and SBI Life Insurance Co. Standard deviation of LIC is 4575.4916802 and SBI Life Insurance Co. is 206252.3293838.

Standard deviation of LIC is lower than the standard deviation of SBI Life Insurance Co. Hence, the ratio of LIC is more consistent than the ratio of SBI Life Insurance Co.

Mean of LIC is lower than the mean of SBI Life Insurance Co. P - Value is 0.000 which is less than < = 0.005 means there is significant difference between mean of LIC and mean of SBI Life Insurance Co. Mean for LIC is 14658.381169 for SBI Life Insurance Co 1442138.068443.

For the ratio the mean is significantly different because P = 0.000 i.e. < 0.05. Thus, null hypothesis is rejected and it is concluded that there is significant difference between Gross Premium to Number of Employees ratio of LIC and SBI Life Insurance Co.

For Total Assets / No. of Employees (Asset per Employee) ratio P – Value is 0.000 i.e. < = 0.005 it means there is significant difference between the standard deviation of LIC and SBI Life Insurance Co. Standard deviation of LIC is. 43353.2583490 And standard deviation SBI Life Insurance Co. is 2322912.4228105.

Standard Deviation of LIC is lower than the standard deviation of SBI Life Insurance Co. Hence, the ratio of LIC is more consistent than the ratio of SBI Life Insurance Co.

Mean of LIC is lower than mean of SBI Life Insurance Co. P - Value is 0.000 which is less than

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<= 0.005 means there is no significant difference between of LIC and SBI Life Insurance Co. Mean for LIC is 97800.265998 for SBI Life Insurance Co. 4161388.509000.

For the ratio the mean is significantly different because P = 0.001 i.e. < 0.05. Thus, null hypothesis is rejected and it is concluded that there is significant difference between Total Regression Analysis of Management Soundness: LIC

Assets to No. of Employees ratio of LIC and SBI Life Insurance Co.

Thus, hypothesis H_0 is rejected and hypothesis $H_1$is accepted. There is significant difference between management soundness of Life Insurance Corporation of India (LIC) and SBI life Insurance Company.

Table 1.6: Results of Regression Analysis for Gross Premium to Number of Employees Ratio of LIC

Equation	Model Summary					Parameter Estimates			
	R Square	F	df1	df2	Sig.	Constant	b1	b2	b3
Linear	.943	150.071	1	9	.000	6618.575	1339.968		
Quadratic	**.980**	**198.388**	**2**	**8**	**.000**	**4154.377**	**2477.290**	**-94.777**	
Cubic	.984	141.476	3	7	.000	2958.502	3465.091	-291.899	10.951

Here regression analyses have been measured by taking independent variable as Year and dependent variable as gross premium to number of employees ratio.

From the table it can be seen all three regressions are significant at 0.000 which is less than 0.05 so regression with highest F - value will be the best fit regression equation.

Quadratic regression is best fit because it has P value 0. 000 which is < 0.05 with highest F value 198.388 among three fits.

So Quadratic regression equation of good fit is. Gross Premium / Number of Employees *100 = 4154.377 +2477.290*(year) - 94.777*(year)^2

Form the figure Continuous increasing trend till the year 2016 then slight decreasing trend can be observed.

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Figure 1.5: Results of Regression Analysis for Gross Premium to Number of Employees Ratio of LIC

SBI LIFE INSURANCE CO.

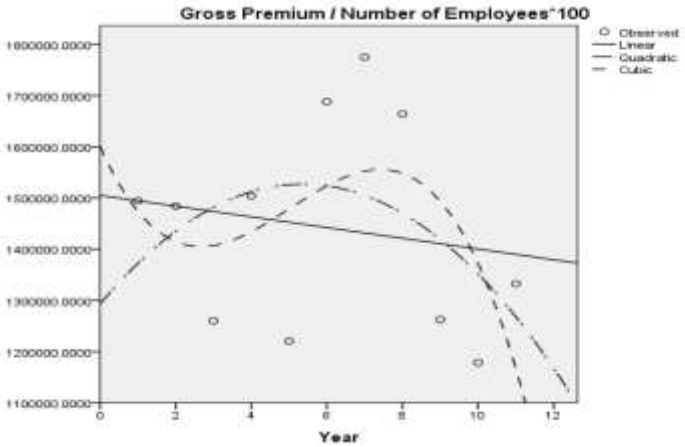
Table: 1.7 Results of Regression Analysis for Gross Premium to Number of Employees Ratio of SBI Life Insurance Co.

Equation	Model Summary					Parameter Estimates			
	R Square	F	df1	df2	Sig.	Constant	b1	b2	b3
Linear	.028	.263	1	9	**.621**	1504966.404	-10471.389		
Quadratic	.162	.776	2	8	**.492**	1292968.013	87374.022	-8153.784	
Cubic	.278	.899	3	7	**.488**	1601085.985	-167133.680	42634.892	-2821.593

Here regression analyses have been measured by taking independent variable as Year and dependent variable as gross premium to number of employees' ratio.

From the table can be observed that none of the regression patterns are significant since all P-values are > 0.05.

Figure 1.6:Results of Regression Analysis for Gross Premium to Number of Employees Ratio of SBI Life Insurance Co.



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Quadratic regression is best fit because it has P value 0. 000 which is < 0.05 with highest F value 198.388 among three fits.

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Figure 1.5: **Results of Regression Analysis for Gross Premium to Number of Employees Ratio of LIC**

SBI LIFE INSURANCE CO.

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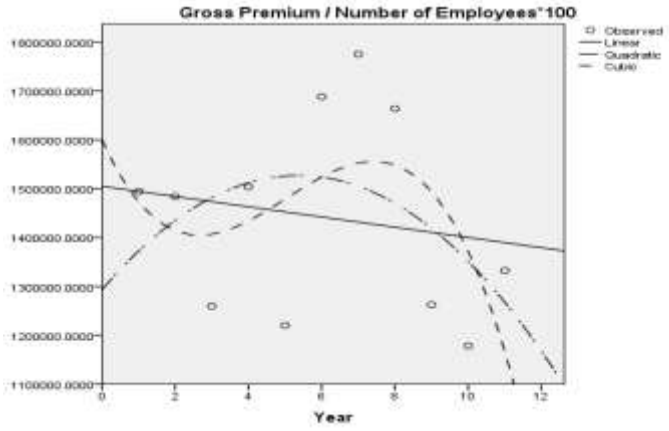

LIC

Table 1.8 : Results of Regression Analysis for Total Assets to No. of Employees (Asset Per Employee) Ratioof LIC

Equation	Model Summary					Parameter Estimates			
	R Square	F	df1	df2	Sig.	Constant	b1	b2	b3
Linear	**.985**	**580.988**	**1**	**9**	**.000**	**19971.769**	**12971.416**		
Quadratic	.991	424.301	2	8	.000	29331.016	8651.764	359.971	
Cubic	.991	254.087	3	7	.000	26382.829	11086.988	-125.994	26.998

Here regression analyses have been measured by taking independent variable as Year and dependent variable as total assets to number of employees' ratio.

From the table it can be seen Linear regression, Quadratic regression and Cubic regression all have P- Value 0.000all three regressions are significant at 0.000 which is less than 0.05 so regression with highest F - value will be the best fit regression equation.

Linear regression is best fit because it has P value 0. 000 which is < 0.05 with highest F value 580.988among three fits.

So Linear regression equation of good fit is

Total Assets / No. of Employees *100 = 26382.829+11086.988*(year)

Form the figure it can be observed that there is a constant increasing growth of this indicator during 2004-05 to 2014-15.

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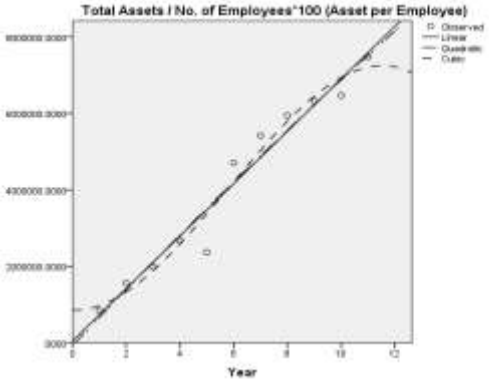
Figure 1.7: Results of Regression Analysis for Total Assets to No. of Employees (Asset Per Employee) Ratioof LIC

SBI LIFE INSURANCE CO.

Table 1.9 : Results of Regression Analysis for Total Assets to No. of Employees (Asset Per Employee) Ratioof SBI Life Insurance Co.

Equation	Model Summary					Parameter Estimates			
	R Square	F	df1	df2	Sig.	Constant	b1	b2	b3
Linear	**.958**	**203.585**	**1**	**9**	**.000**	**48998.443**	**685398.344**		
Quadratic	.958	91.280	2	8	.000	-73745.642	742049.460	-4720.926	
Cubic	.966	67.055	3	7	.000	859098.260	-28486.436	149044.552	-8542.527

Figure 1.8: Results of Regression Analysis for Total Assets to No. of Employees (Asset Per Employee) Ratioof SBI Life Insurance Co.during 2004-05 to 2014-15.



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From the table it can be seen Linear regression, Quadratic regression and Cubic regression all have P- Value 0.000all three regressions are significant at 0.000 which is less than 0.05 so regression with highest F - value will be the best fit regression equation.

Linear regression is best fit because it has P value 0. 000 which is < 0.05 with highest F value 203.585 among three fits.

So Linear regression equation of good fit is.

Total Assets / No. of Employees *100 = 48998.443 + 685398.344*(year)

Form the figure it can be observed that there is a constant increasing growth of this indicator

Conclusion:

The objective of this study was to analyse management soundness of life insurance companies in India, selected from**CARAMEL parameter proposed by International Monetary Fund (IMF)**. In addition to the ratio analysis, the management soundness statistically tested. Results revealed that management soundness of both the life insurance companies is satisfactorily sound by and large.

Statistical test of the management soundness results reveal that there was a significance difference management soundness in LIC and SBI Life Insurance Co.

Entry of private players may have decreased the market share of LIC but performance wise LIC is still doing well. SBI Life insurance co. though has started business in **2002** but in this but performing well.

Maximization of premium income becomes the most important objective of the insurance company. SBI Life Insurance Co. is increasing slowly its grip over the market with the entry of the private operators.

Recommendations:

1. Agents, marketing team should be trained adequately equipped with knowledge and skill so can give correct informations to customers so customers will have proper knowledge about the policies which can help them to make decision about the policies and companies which in turn help the companies to get more customers.
2. Both the companies under study can try to cover untapped rural area.
3. Competent manpower is the factor in all functioning of insurance companies, steps should be taken to retain and acquire fresh managerial talents can help companies to innovate the products and sell more products.
4. Inclusion of more equity will help to make the asset quality and solvency status of the insurers better.

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SBI Life Insurance Co. Ltd Annual Reports

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