



An Evaluation of Financial Performance with Respect to Productivity and Profitability of Public Sector General Insurance Company Operating in India Using Fem & Rem

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ABSTRACT

India ranking 5th in terms of GDP where it contributes nearly 2.73% into the world insurance during 2024, where general insurance has gained more importance at present reason behind the study is to analyse driving factors which are determining the performance of public sector general insurance company and identifying the valid reasons for decline in its growth. The study has been conducted by considering some of the key dependent and independent factors impacting the performances. A sample of 4 public sector general insurance companies has been considered for the study. The time period of the study was from 2011-12 to 2020-21. Regression analysis static panel data model has been employed to analyse by considering some of the important variables such as Dependent variables & Independent variables, findings of the study states that there is a positive (Significant) relationship between CTOR, YOTI, GR, UER, LR, ID, SM, IR & NPM whereas the study states that there is a negative (Not Significant) relationship between ROA, IR, RI & IP. Finally the research paper shall try to conclude that the FEM model try to suggest that selected variables shall have a significant impact on the profitability of public sector general insurance company.

Keywords: General Insurance; Regression analysis; financial performance

INTRODUCTION

India is being the 5th largest economy in the world and also ranking 15th globally in the area of insurance contributing nearly 2.73% into the worlds insurance but still recording the lowest penetration rate. At present 53.89% contribution has been through the service sector out of the total GDP since insurance is also functioning under service sector where currently having a growth rate of 10-12% in respect to life insurance where as 16-18% growth has been witnessed YOY with respect to general insurance. Basically this sector needs an elevation to flourish in the market of uncertainties by adapting a suitable business models projecting positive growth in this sector, realising the companies about its core businesses they are in, moving ahead with the changes that are taking place worldwide needed to be addressed. Currently insurance has been considered as one of the stable industry when it is been compared with rest of the industry. Insurance industry has been ranked 4th in terms of new business application growth.

TABLE 1 SHOWING THE WORLDS GDP

| Rank | Country | GDP(Trillion \$) | Share of worlds GDP (%) |
|------|---------|------------------|-------------------------|
| 01 | US | 19485.4 | 24.08 |
| 02 | China | 12237.7 | 15.12 |
| 03 | Japan | 4872.4 | 6.02 |
| 04 | Germany | 3693.2 | 4.56 |
| 05 | India | 2650.7 | 3.28 |

(Source: www.worldometers.info)

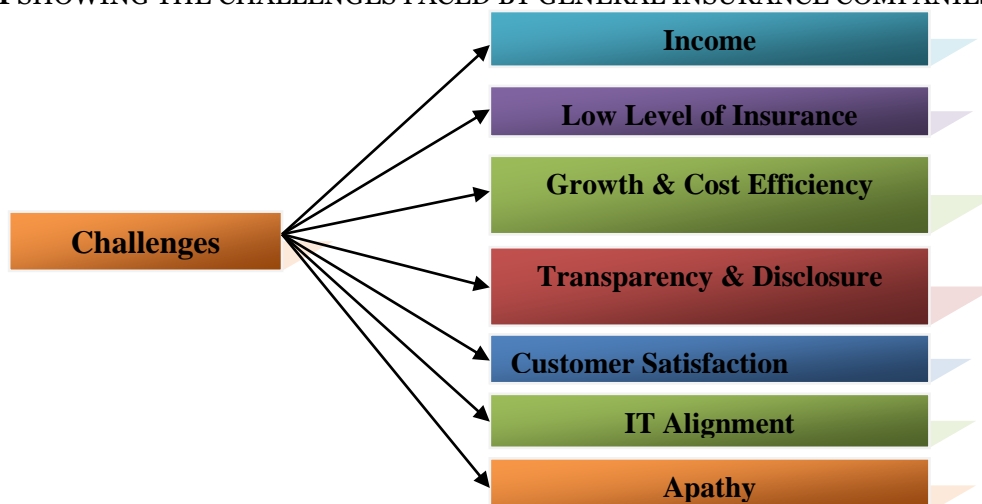
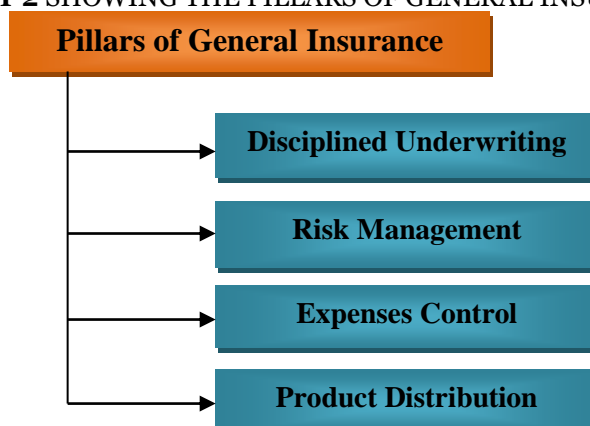
TABLE 2 SHOWING INSURANCE CARRIERS & RELATED ACTIVITIES

| Year | Total (\$) | GDP | Insurance Carriers & Related Activities GDP(\$) | Percentage of total GDP (%) |
|---------|------------|-----|---|-----------------------------|
| 2016-17 | 19,479.6 | | 550.7 | 2.8 |
| 2017-18 | 20,527.2 | | 590.7 | 2.9 |
| 2018-19 | 21,372.6 | | 604.5 | 2.8 |
| 2019-20 | 20,893.7 | | 640.3 | 3.1 |
| 2020-21 | 22,996.1 | | 674.2 | 2.9 |

(Source: US department of Commerce Bureau of Economic Analysis)

TABLE 3 SHOWING SHARE OF NON-LIFE INSURANCE COMPANY DURING THE YEAR 2020-21

| Sector | Percentage (%) |
|-----------------------------|----------------|
| Public Sector | 49.3 |
| Private Sector | 36.2 |
| Standalone Health Insurance | 7.9 |
| Specialised Insurers | 6.6 |
| Total | 100 |

CHART 1 SHOWING THE CHALLENGES FACED BY GENERAL INSURANCE COMPANIES IN INDIA**CHART 2** SHOWING THE PILLARS OF GENERAL INSURANCE

2.1 LITERATURE REVIEW

(Kamat, Prof.B.Ramesh, & Dhume, 2016)¹ In this research paper the researcher has made a study on the evaluation of financial performance of all 24 life insurance companies operating in India where the study is based on selected parameters which is ranging from 2009-2014 using FEM and Regression Equation, the findings of the study was that there shall exist a significant difference among the performance of public and

private sector life insurance companies, finally FEM shall try to suggest that profitability position of life insurance companies have significant positive relationship with liquidity, solvency & age.

(Muthusamy, Dewasiri, Lankanatha, Sood, & Grima, 2023)² In this research article here the researcher has made an effort to explore the soundness of general insurance industry in Srilanka by employing CAMEL approach, the study is been carried out during 2011-2019 by employing panel data regression analysis, return on Asset (ROA) is been used as a proxy of financial performance along with other 10 dimensions, findings of the study was that using FEM model CAR and PR shall have a positive impact whereas in case of RR, CR & ER shall have a negative impact on the financial performance, finally the paper shall try to conclude that CAR, ER, RI & AS are the important predictors of financial performance of general insurance.

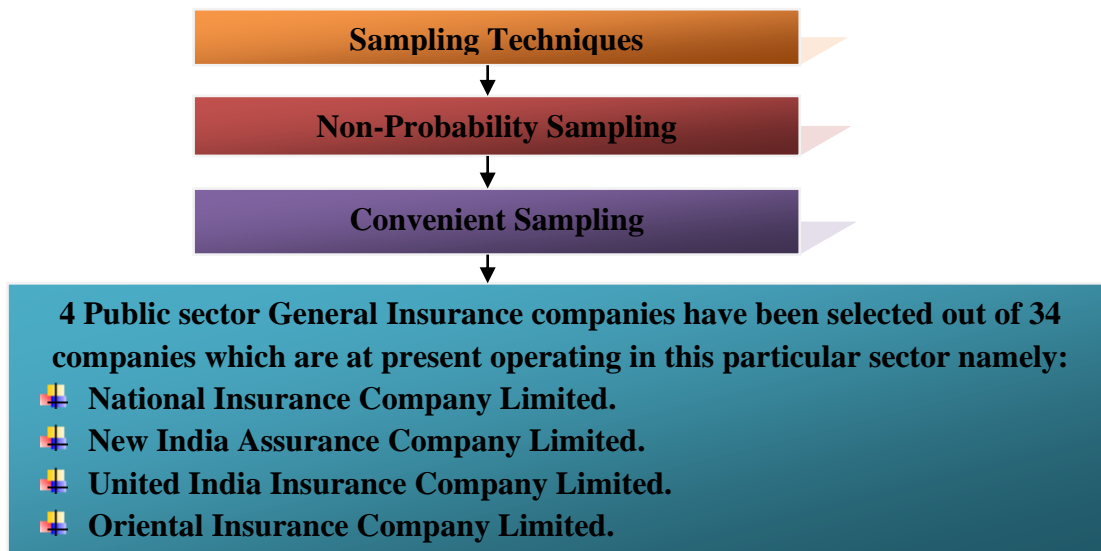
(Choudhary & Upadhyaya, 2021)³ In this research paper the author has made an examination of the financial performance of Indian life insurance based on various parameters by considering 23 private players & public players, where one way ANOVA, Net Profit Ratio, Returns on Net worth, Return on Capital Employed, Return on Asset ratios has been employed in the study for better analysis, finding of the study is that LIC, SBI life been better among the public sector when compared with HDFC.

(Rao, 2016) In this research article the author has tried to explain the role of insurance in the developing country like India. This paper shall try to explain the financial performance of public sector general insurance companies operating in India where the key factors selected for the study were Gross Premium, Earned Premium, PAT, Net Incurred Claim Ratio, Net Acquisition Cost Ratio on Earned Premium and Management Expenses Ratio to Earned Premium the study has been conducted for recent 6 quarters. Findings of the study was that the above parameter selected for the study where Gross Premium, Earned Premium, PAT, Net Incurred Claim Ratio has a positive impact on the financial performance whereas Acquisition Cost Ratio on Earned Premium and Management Expenses Ratio to Earned Premium shall have a negative impact on the financial performances finally the paper shall try to conclude that the management shall try to minimize the Acquisition cost & management expenses in order to maximize the profitability of public sector general insurance companies operating in India.

3. RESEARCH METHODOLOGY

3.1 OBJECTIVE OF THE STUDY

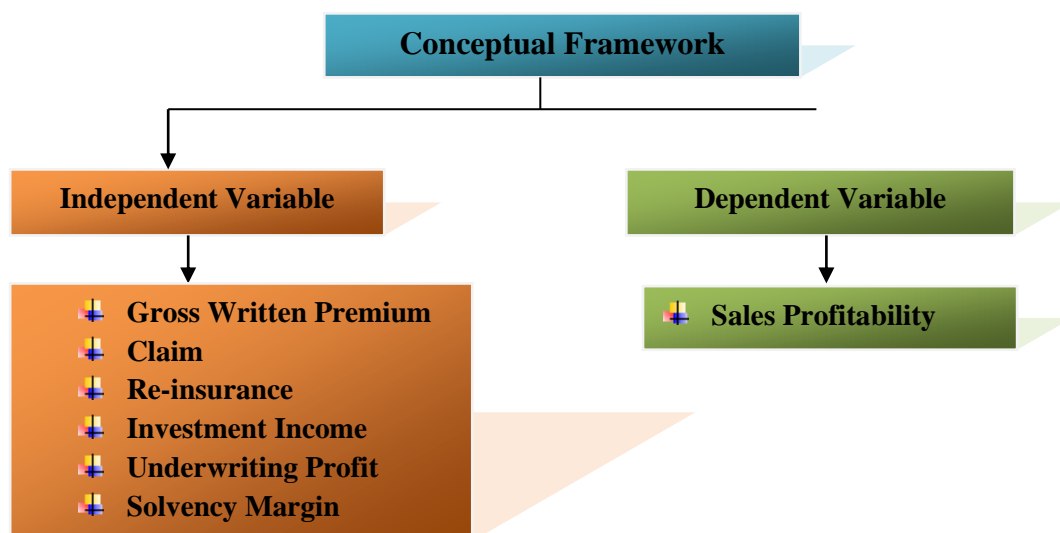
- ✚ To assess the financial performance of public sector general insurance company operating in India.
- ✚ To study the indicators impacting the financial performance of public sector general insurance company operating in India.



3.2 SAMPLING DESIGN

3.3 RESEARCH DESIGN

In this research paper the following are some of the key Dependent and Independent variable employed in the study



3.4 SAMPLE SIZE

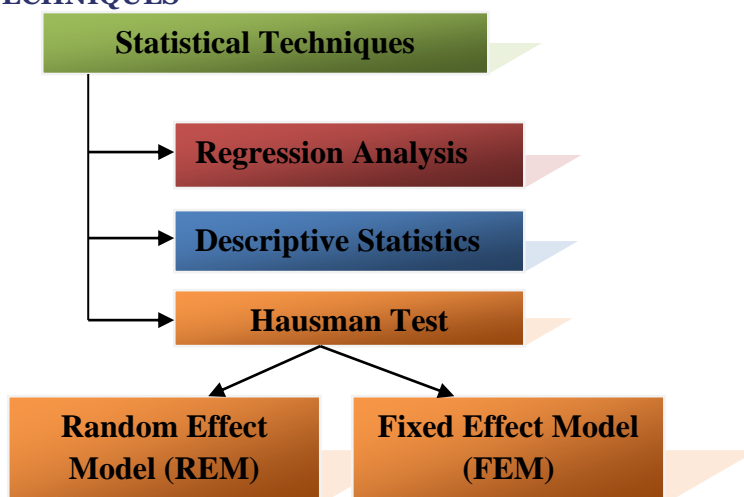
Research paper shall include 4 public sector general insurance companies which are operating in India where the data has been collected through their financial reports that were presented during the last **10** years i.e. from the financial year **2011-12** to **2020-21** respectively.

3.5 MODEL SPECIFICATION

$$SP = \alpha_0 + \beta_1(GWPit) + \beta_2(Cit) + \beta_3(Rlit) + \beta_4(Ilit) + \beta_5(UPit) + \beta_6(SMit) \epsilon_{it}$$

In testing of association between the financial performance the following Regression equation static panel data model has been specified in order to test the effect on the performances of public sector general insurance company:-

3.6 STATISTICAL TECHNIQUES



In order to investigate the financial performance and its impact some of the key financial ratios have been employed along with regression analysis and Hausman Test for better analysis.

3.7 SOURCES OF DATA

Secondary sources of data have been used in conducting the study.

3.8 STUDY PERIOD

Study has been conducted for a period of 10 years i.e. from **2011-12** to **2020-21** respectively.

3.9 LIMITATIONS OF THE STUDY

The Study has been confined only to **4** public sector general insurance companies operating in India.

- There shall be other indicators affecting the financial performances apart from the variables employed in the study henceforth results may vary accordingly.
- Only public sector general insurance company has been taken up for the study the same outcome may or may not hold good for the private sector general insurance companies operating in India.

H₀ : ROA,NPM, YOTI,CTR,DPR,IR,RI ,GR,UER,LR,IP ,ID,SM does not have a significant impact on ROP

3.10 HYPOTHESIS USED IN THE STUDY

H₁ : ROA has a significant impact on ROP

H₂ : NPM has a significant impact on ROP

H₃ : YOTI has a significant impact on ROP

H₄ : CTR has a significant impact on ROP

H₅ : DPR has a significant impact on ROP

H₆ : IR has a significant impact on ROP

H₇ : RI has a significant impact on ROP

H₈ : GR has a significant impact on ROP

H₉ : UER has a significant impact on ROP

H₁₀ : LR has a significant impact on ROP

H₁₁ : IP has a significant impact on ROP

H₁₂ : ID has a significant impact on ROP

H₁₃ : SM has a significant impact on ROP

4. DATA ANALYSIS AND INTERPRETATION

Table 4 showing results of Cronbach's Alpha test:-

| Reliability Statistics | |
|------------------------|------------|
| Cronbach's Alpha | N of Items |
| .361 | 15 |

Analysis:-

From the above table 1 showing the results of Cronbach's Alpha value which is 0.361 which is been considered very low & the scale consist of 15 items where a large number of items can improve the reliability.

Table 5 showing the summary statistics for a data set containing information on various financial and economic variables:-

| Descriptive Statistics | | | | | |
|---------------------------|----|---------|---------|---------|----------------|
| | N | Minimum | Maximum | Mean | Std. Deviation |
| RETURN ON ASSET | 40 | -5.70 | 6.29 | 1.0080 | 2.89784 |
| YIELD ON TOTAL INVESTMENT | 40 | 6.32 | 22.39 | 12.1793 | 4.08053 |
| NET PROFIT MARGIN | 40 | -18.14 | 19.09 | 3.7488 | 8.88225 |
| RETURN ON PROFIT | 40 | -29.50 | 14.68 | -2.9493 | 10.20372 |
| CAPITAL TURNOVER RATIO | 40 | 18.68 | 39.47 | 30.4435 | 5.12985 |
| DIVIDEND PAYOUT RATIO | 40 | .00 | 25.22 | 2.3412 | 6.45027 |
| INTEREST RATE | 40 | .65 | .87 | .7290 | .06080 |
| REINSURANCE | 40 | .62 | .93 | .8240 | .06800 |
| GROWTH RATE | 40 | -6.60 | 8.70 | 5.4700 | 4.30957 |
| UNEMPLOYMENT RATE | 40 | 5.30 | 8.00 | 5.7000 | .80000 |
| LITERACY RATE | 40 | 69.30 | 74.37 | 70.8210 | 2.35296 |
| INSURANCE PENETRATION | 40 | .70 | 1.00 | .8310 | .11254 |

| | | | | | |
|---------------------|----|-------|-------|---------|---------|
| INSURANCE DENSITY | 40 | 10.00 | 19.00 | 14.2200 | 3.83848 |
| SOLVENCY MARGIN | 40 | .02 | 3.56 | 1.7370 | .74852 |
| INFLATION RATE | 40 | 3.40 | 10.00 | 5.8100 | 2.14713 |
| Valid N (list wise) | 40 | | | | |

Analysis:-

- ✚ **Return on Asset:** The Mean value is **1.0080** indicating a slight positive average return, whereas Standard Deviation is **2.89784** suggesting moderate variability in returns.
- ✚ **Yield on total Investment:** The Mean value is **12.1793** indicating higher average yield, whereas Standard Deviation is **4.08053** revealing more variability when compared to return on Asset.
- ✚ **Net Profit Margin:** The Mean value is **3.7488** suggesting a moderate average profit margin, whereas Standard Deviation is **8.88225** indicating significant variability in profit margins.
- ✚ **Return on Profit:** The Mean value is **-2.9493** indicating an overall negative return, whereas Standard Deviation is **10.20372** suggesting high variability in returns.
- ✚ **Capital Turnover Ratio:** The Mean value is **30.4435** indicating a relatively high average capital turnover, whereas Standard Deviation is **5.12985** suggesting moderate variability.
- ✚ **Dividend Payout Ratio:** The Mean value is **2.3412** indicating a moderate average dividend payout whereas Standard Deviation is **6.45027** suggesting significant variability in dividend payouts.
- ✚ **Interest Rate:** The Mean value is **0.7290** indicating a relatively low average interest rate whereas Standard Deviation is **0.06080** suggesting low variability in interest rates.
- ✚ **Reinsurance:** The Mean value is **0.8240** indicating moderate average reinsurance premium whereas Standard Deviation is **0.06800** suggesting low variability in reinsurance premiums.
- ✚ **Growth Rates:** The Mean value is **5.4700** indicating a moderate average growth rate whereas Standard Deviation is **4.30957** suggesting significant variability in growth rates.
- ✚ **Unemployment Rate:** The Mean value is **5.7000** indicating a moderate average unemployment rate whereas Standard Deviation is **0.80000** suggesting low variability in employment rates.
- ✚ **Literacy Rate:** The Mean value is **70.8210** indicating a high average literacy rate whereas Standard Deviation is **2.35296** suggesting moderate variability in the literacy rates.
- ✚ **Insurance Penetration:** The Mean value is **0.8310** indicating a moderate average insurance penetration whereas Standard Deviation is **0.11254** suggesting low variability in insurance penetration.
- ✚ **Insurance Density:** The Mean value is **14.2200** indicating a moderate average insurance density whereas Standard Deviation is **3.83848** suggesting significant variability in insurance density.
- ✚ **Solvency Margin:** The Mean value is **1.7370** suggesting moderate average solvency margin whereas Standard Deviation is **0.74852** suggesting moderate variability in solvency margins.
- ✚ **Inflation Rate:** The Mean value is **5.8100** indicating moderate average inflation rate whereas Standard Deviation is **2.14713** suggesting moderate variability in inflation rates.

Table 6 showing the results of a one-sample Kolmogorov-Smirnov (K-S) test of Normality:

| One-Sample Kolmogorov-Smirnov Test | | | | | | | | | | | | | | | | |
|---|-----------------------|--|-------------------------------|---------------------------------|--------------------------------|--------------------------------------|-------------------------------------|----------------------|-----------------|--------------------|--------------------------|----------------------|----------------------------------|--------------------------|----------------------------|-----------------------|
| | | RET URN ON TOTAL ASSE T | YIELD ON INVEST MENT | NET PRO FIT MAR GIN | RET URN ON PRO FIT | CAPIT AL TURN OVER RATIO | DIVID END PAYO UT RATIO | INTE REST RATE | REINSUR ANCE | GRO WTH RATE | UNEMPLOY MENT RATE | LITER ACY RATE | INSURA NCE PENETR ATION | INSUR ANCE DENSITY | SOLVE NCY MARG IN | INFLA TION RATE |
| N | | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 |
| Normal Paramet ers ^{a,b} | Mean | 1.0 | 12.18 | 3.7 | -2.9 | 30.44 | 2.34 | .729 | .8240 | 5.47 | 5.7000 | 70.8 | .8310 | 14.22 | 1.737 | 5.810 |
| | Std. Devia tion | 2.9 | 4.08 | 8.9 | 10.2 | 5.13 | 6.45 | .061 | .06800 | 4.31 | .80000 | 2.35 | .11254 | 3.84 | .7485 | 2.147 |
| Most Extrem e Differen ces | Absol ute | .22 | .21 | .20 | .12 | .13 | .46 | .183 | .152 | .303 | .446 | .441 | .210 | .261 | .130 | .228 |
| | Positi ve | .12 | .21 | .11 | .06 | .07 | .46 | .183 | .091 | .227 | .446 | .441 | .209 | .261 | .130 | .228 |
| | Negat ive | -.22 | -.16 | -.20 | -.12 | -.13 | -.36 | -.09 | -.152 | -.30 | -.309 | -.259 | -.210 | -.238 | -.101 | -.153 |
| Kolmogorov-Smirnov Z | | 1.4 | 1.30 | 1.3 | .78 | .80 | 2.9 | 1.16 | .958 | 1.92 | 2.822 | 2.79 | 1.331 | 1.649 | .824 | 1.442 |
| Asymp. Sig. (2-tailed) | | .04 | .06 | .08 | .57 | .54 | .000 | .14 | .317 | .001 | .000 | .000 | .058 | .009 | .505 | .031 |
| a. Test distribution is Normal. | | | | | | | | | | | | | | | | |
| b. Calculated from data. | | | | | | | | | | | | | | | | |

Analysis:-

The above table 3 shall try to reveal that some of the variables shall try to show significant deviations from normality which shall include Return on Profit, Dividend Payout Ratio, Reinsurance, Unemployment Rate and Insurance Density whereas there are few other variables which appears to be more normally distributed such as Yield on Total Investment, Net Profit Margin and Capital Turnover Ratio.

Table 7 showing the summary statistics for the regression model:-

| Model Summary^b | | | | | |
|--|-------------------|-----------------|--------------------------|-----------------------------------|----------------------|
| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Durbin-Watson |
| 1 | .848 ^a | .718 | .561 | 6.76350 | 2.029 |
| a. Predictors: (Constant), INFLATION RATE, YIELD ON TOTAL INVESTMENT, UNEMPLOYEMENT RATE, CAPITAL TURNOVER RATIO, REINSURANCE, INTEREST RATE, INSURANCE PENETRATION, SOLVENCY MARGIN, DIVIDEND PAYOUT RATIO, RETURN ON ASSET, LITERACY RATE, GROWTH RATE, INSURANCE DENSITY, NET PROFIT MARGIN | | | | | |
| b. Dependent Variable: RETURN ON PROFIT | | | | | |

Analysis:-

- R value is 0.848 which shall indicate strong positive relationship between the Independent and the Dependent variables.
- R squared of value 0.718 which means 71.8% of the variation in Return on Profit which is been explained by the model.
- Adjusted R squared of 0.561 which is lower suggesting that some of the indicated variables might not be adding significant explanatory power.
- In case of Standard error value of 6.76350 suggest that on average the predicted Return on Profit is off by about 6.76350 units.
- According to Durbin-Watson where the value is 2.029 suggest that there is no significant autocorrelation in the residuals where this is a good sign as auto correlation can violate the assumption of regression analysis.

Table 8 showing the results of an ANOVA test which is been used to assess overall significance of the regression model:-

| ANOVA ^a | | | | | | |
|--|------------|----------------|----|-------------|-------|-------------------|
| Model | | Sum of Squares | df | Mean Square | F | Sig. |
| 1 | Regression | 2916.898 | 14 | 208.350 | 4.555 | .000 ^b |
| | Residual | 1143.622 | 25 | 45.745 | | |
| | Total | 4060.521 | 39 | | | |
| a. Dependent Variable: RETURN ON PROFIT | | | | | | |
| b. Predictors: (Constant), INFLATION RATE, YIELD ON TOTAL INVESTMENT, UNEMPLOYEMENT RATE, CAPITAL TURNOVER RATIO, REINSURANCE, INTEREST RATE, INSURANCE PENETRATION, SOLVENCY MARGIN, DIVIDEND PAYOUT RATIO, RETURN ON ASSET, LITERACY RATE, GROWTH RATE, INSURANCE DENSITY, NET PROFIT MARGIN | | | | | | |

Analysis:-

Overall model significance since the F-statistic of 4.555 and the corresponding p-value of 0.000 shall try to indicate that the model is statistically significant which means that the independent variable shall collectively explain the significant portion of the variation in Return on Profit.

Table 9 showing the coefficients from the regression model:-

| Coefficients^a | | | | | |
|---|------------------------------------|-------------------|----------------------------------|----------|-------------|
| Model | Unstandardized Coefficients | | Standardized Coefficients | | Sig. |
| | B | Std. Error | Beta | t | |
| (Constant) | 44.667 | 85.726 | | .521 | .607 |
| RETURN ON ASSET | -2.402 | 3.495 | -.682 | -.687 | .498 |
| YIELD ON TOTAL INVESTMENT | -.991 | .453 | -.396 | -2.186 | .038 |
| NET PROFIT MARGIN | 1.188 | 1.192 | 1.034 | .996 | .329 |
| CAPITAL TURNOVER RATIO | -.117 | .315 | -.059 | -.371 | .714 |
| DIVIDEND PAYOUT RATIO | .288 | .305 | .182 | .944 | .354 |
| INTEREST RATE | -64.554 | 37.323 | -.385 | -1.730 | .096 |
| REINSURANCE | 98.344 | 26.139 | .655 | 3.762 | .001 |
| GROWTH RATE | -.715 | .687 | -.302 | -1.041 | .308 |
| UNEMPLOYEMENT RATE | -3.100 | 3.508 | -.243 | -.884 | .385 |
| LITERACY RATE | -.881 | 1.206 | -.203 | -.731 | .472 |
| INSURANCE PENETRATION | 12.807 | 42.922 | .141 | .298 | .768 |
| INSURANCE DENSITY | .429 | 1.636 | .161 | .262 | .795 |
| SOLVENCY MARGIN | .561 | 2.197 | .041 | .255 | .801 |
| INFLATION RATE | -.414 | .892 | -.087 | -.464 | .647 |
| a. Dependent Variable: RETURN ON PROFIT | | | | | |

Analysis:-

- A p-value less than 0.05 shall try to indicate that there exist a statistically significant relationship between the Independent and the Dependent variable.
- Several Independent variables have statistically significant relationships with Return on Profit.

Table 10 showing summary statistics for the residuals from a regression model:-

| Residuals Statistics^a | | | | | |
|---|-----------|---------|---------|----------------|----|
| | Minimum | Maximum | Mean | Std. Deviation | N |
| Predicted Value | -22.1029 | 13.1248 | -2.9493 | 8.64825 | 40 |
| Residual | -13.69460 | 9.74265 | .00000 | 5.41513 | 40 |
| Std. Predicted Value | -2.215 | 1.859 | .000 | 1.000 | 40 |
| Std. Residual | -2.025 | 1.440 | .000 | .801 | 40 |
| a. Dependent Variable: RETURN ON PROFIT | | | | | |

Analysis:-

Since the Mean residual value is **0.000** suggesting that the model is unbiased.

Table 11 showing the results of a paired sample t-test for various pairs of variables related to Return on Profit (ROP):-

| Paired Samples Test | | | | | | | | | |
|---------------------|--|--------------------|----------------|-----------------|---|-----------|---------|----|-----------------|
| | | Paired Differences | | | | | | df | Sig. (2-tailed) |
| | | Mean | Std. Deviation | Std. Error Mean | 95% Confidence Interval of the Difference | | | | |
| | | | | | Lower | Upper | | | |
| Pair 1 | RETURN ON PROFIT - CAPITAL TURNOVER RATIO | -33.39275 | 12.50456 | 1.97714 | -37.39190 | -29.39360 | -16.889 | 39 | .000 |
| Pair 2 | RETURN ON PROFIT - YIELD ON TOTAL INVESTMENT | -15.12850 | 10.91316 | 1.72552 | -18.61870 | -11.63830 | -8.767 | 39 | .000 |
| Pair 3 | RETURN ON PROFIT - RETURN ON ASSET | -3.95725 | 9.38453 | 1.48383 | -6.95857 | -.95593 | -2.667 | 39 | .011 |
| Pair 4 | RETURN ON PROFIT - DIVIDEND PAYOUT RATIO | -5.29050 | 11.05320 | 1.74766 | -8.82549 | 1.75551 | -3.027 | 39 | .004 |
| Pair 5 | RETURN ON PROFIT - INTEREST RATE | -3.67825 | 10.23818 | 1.61880 | -6.95258 | -.40392 | -2.272 | 39 | .029 |
| Pair 6 | RETURN ON PROFIT - REINSURANCE | -3.77325 | 10.16535 | 1.60728 | -7.02429 | -.52221 | -2.348 | 39 | .024 |
| Pair 7 | RETURN ON PROFIT - GROWTH RATE | -8.41925 | 9.41999 | 1.48943 | -11.43191 | -5.40659 | -5.653 | 39 | .000 |
| Pair 8 | RETURN ON PROFIT - UNEMPLOYEMENT RATE | -8.64925 | 10.49200 | 1.65893 | -12.00475 | -5.29375 | -5.214 | 39 | .000 |
| Pair 9 | RETURN ON PROFIT - LITERACY RATE | -73.77025 | 11.37663 | 1.79880 | -77.40867 | -70.13183 | -41.011 | 39 | .000 |
| Pair 10 | RETURN ON PROFIT - INSURANCE PENETRATION | -3.78025 | 10.23806 | 1.61878 | -7.05454 | -.50596 | -2.335 | 39 | .025 |
| Pair 11 | RETURN ON PROFIT - INSURANCE DENSITY | -17.16925 | 12.28560 | 1.94252 | -21.09837 | -13.24013 | -8.839 | 39 | .000 |
| Pair 12 | RETURN ON PROFIT - SOLVENCY MARGIN | -4.68625 | 9.95073 | 1.57335 | -7.86865 | -1.50385 | -2.979 | 39 | .005 |
| Pair 13 | RETURN ON PROFIT - INFLATION RATE | -8.75925 | 9.96428 | 1.57549 | -11.94598 | -5.57252 | -5.560 | 39 | .000 |
| Pair 14 | RETURN ON PROFIT - NET PROFIT MARGIN | -6.69800 | 10.30362 | 1.62914 | -9.99326 | -3.40274 | -4.111 | 39 | .000 |

Analysis:-

p-value less than 0.05 shall indicate that it is statistically significant difference between the paired variables:-

- ✚ **Pair -1:** Return on Profit - Capital Turnover Ratio since the p-value is 0.000 suggesting a significant difference between two variables.
- ✚ **Pair -2:** Return on Profit - Yield on Total Investment since the p-value is 0.000 suggesting a significant difference between two variables.
- ✚ **Pair -3:** Return on Profit - Return on Asset since the p-value is 0.011 indicating that there is no significant difference between two variables.
- ✚ **Pair -4:** Return on Profit - Dividend Payout Ratio since the p-value is 0.004 indicating that there is significant difference between two variables.
- ✚ **Pair -5:** Return on Profit - Interest Rate since the p-value is 0.029 indicating that there is no significant difference between two variables.
- ✚ **Pair -6:** Return on Profit - Reinsurance since the p-value is 0.024 indicating that there is no significant difference between two variables.
- ✚ **Pair -7:** Return on Profit - Growth Rate since the p-value is 0.000 indicating that there is significant difference between two variables.
- ✚ **Pair -8:** Return on Profit - Unemployment Rate since the p-value is 0.000 indicating that there is significant difference between two variables.
- ✚ **Pair -9:** Return on Profit - Literacy Rate since the p-value is 0.000 indicating that there is significant difference between two variables.
- ✚ **Pair -10:** Return on Profit - Insurance Penetration since the p-value is 0.025 indicating that there is no significant difference between two variables.
- ✚ **Pair -11:** Return on Profit - Insurance Density since the p-value is 0.000 indicating that there is significant difference between two variables.
- ✚ **Pair -12:** Return on Profit - Solvency Margin since the p-value is 0.005 indicating that there is significant difference between two variables.
- ✚ **Pair -13:** Return on Profit - Inflation Rate since the p-value is 0.000 indicating that there is significant difference between two variables.
- ✚ **Pair -14:** Return on Profit - Net Profit Margin since the p-value is 0.000 indicating that there is significant difference between two variables.

FINDINGS OF THE STUDY:-

Table 12 showing the results of coefficients from the regression model:-

| Variables | Indicators | P Value | Impact | Decision |
|-----------|------------|---------|-----------------|--------------|
| Internal | ROA | 0.498 | Not significant | Accept H_0 |
| | NPM | 0.329 | Not significant | Accept H_0 |
| | YOTI | 0.038 | Significant | Accept H_1 |
| | CTR | 0.714 | Not significant | Accept H_0 |
| | DPR | 0.354 | Not significant | Accept H_0 |
| | RI | 0.096 | Not significant | Accept H_0 |
| | SM | 0.001 | Significant | Accept H_1 |
| External | IR | 0.308 | Not significant | Accept H_0 |
| | GR | 0.385 | Not significant | Accept H_0 |
| | UEM | 0.472 | Not significant | Accept H_0 |
| | LR | 0.768 | Not significant | Accept H_0 |
| | IP | 0.795 | Not significant | Accept H_0 |
| | ID | 0.801 | Not significant | Accept H_0 |
| | IFR | 0.647 | Not significant | Accept H_0 |

Table 13 showing the results of a paired sample t-test for various pairs of variables related to Return on Profit (ROP):-

| Pairs | Indicators | P Value | Impact |
|--------|--|---------|-----------------|
| Pair 1 | RETURN ON PROFIT - CAPITAL TURNOVER RATIO | .000 | Significant |
| Pair 2 | RETURN ON PROFIT - YIELD ON TOTAL INVESTMENT | .000 | Significant |
| Pair 3 | RETURN ON PROFIT - RETURN ON ASSET | .011 | Not significant |
| Pair 4 | RETURN ON PROFIT - DIVIDEND PAYOUT RATIO | .004 | Significant |
| Pair 5 | RETURN ON PROFIT - INTEREST RATE | .029 | Not significant |
| Pair 6 | RETURN ON PROFIT - REINSURANCE | .024 | Not significant |
| Pair 7 | RETURN ON PROFIT - GROWTH RATE | .000 | Significant |
| Pair 8 | RETURN ON PROFIT - UNEMPLOYMENT RATE | .000 | Significant |

| | | | |
|----------------|---|-------------|------------------------|
| Pair 9 | RETURN ON PROFIT - LITERACY RATE | .000 | Significant |
| Pair 10 | RETURN ON PROFIT - INSURANCE PENETRATION | .025 | Not significant |
| Pair 11 | RETURN ON PROFIT - INSURANCE DENSITY | .000 | Significant |
| Pair 12 | RETURN ON PROFIT - SOLVENCY MARGIN | .005 | Significant |
| Pair 13 | RETURN ON PROFIT - INFLATION RATE | .000 | Significant |
| Pair 14 | RETURN ON PROFIT - NET PROFIT MARGIN | .000 | Significant |

Out of 14 pairs in the study 10 pairs shall try to reveal that the variable shall have a significant impact on the Return on Profit whereas only 4 pairs shall indicate that the variables shall have no significant impact on the Return on Profit.

Conclusion:-

Today assessing the financial performance has gained more significant during the last decade. Performance metrics has several explanations but most significant is that which can maximize the efficiency of the general insurance companies when it is been employed correctly. Willingness of general insurance companies in competing positively is so important or else it shall be very difficult for the general insurance companies in making in this competitive world.

The most significant part of the study is creation of certain methods or structure which can be employed by the general insurance companies to be successful. The most significant contribution of this research is creation of structure and methodology for evaluating the success of the general insurance companies with this analysis we can try to conclude that the parameters used in the study shall have a huge impact on the study. Creating a realistic structure and methodology for evaluating the success of the public sector general insurance companies is the most significant contribution of this research paper.

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