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Impact of liquidity solvency and efficiency on profitability of select FMCG companies

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Abstract: *Business concern needs finance as basic and necessary need to meet their requirements all business activities are directly depend on finance so it called as life blood of business and its considered as nerve centre of business because it circulates financial aspects to all function and operations of business. So finance is important for peaceful function of business. The study attempts to analyze level of Liquidity, Solvency, Efficiency and profitability level of FMCG companies and to know the impact of Liquidity, solvency and efficiency on profitability of select FMCG companies.*

Key words: *Financial performance, FMCG industry, Liquidity, Solvency, Efficiency, Profitability, Regression, ANOVA.*

1. INTRODUCTION:

Fast moving consumer goods (FMCG),are products that are sold quickly. Examples non-durable household goods such, beverages, toiletries, candies, cosmetics, over-the-counter drugs, dry goods, and other consumables. FMCG in India The fast moving consumer goods (FMCG) industry or consumer packaged goods (CPG) industry is mainly responsible for producing, distributing and marketing fast moving consumer goods. The FMCG industry is India's fourth largest economic sector. Household and personal care products - 50% of the sales in the industry, healthcare- 31-32% and food processing -for 18-19%.The four main term of study is Liquidity, solvency efficiency and profitability. The ability of a business to pay off its short-term creditors is measured by liquidity. Solvency ratio is source to measure a firms ability to pay its long term debts. Efficiency ratios are source to measure the ability of a business to use its assets and liabilities internally to generate income. Profitability is a measure of an organization's profit relative to its expenses.

2. LITERATURE REVIEW:

Alka khatri, Dr. Ashok Agarwal (2021), In their study they aimed to measure financial performance of selected fast moving consumer goods companies in India, The researcher has used secondary data for data collection of FMCG companies for the period from 2016 to 2020 the data was gathered from five companies (HUL, P&G, Nestle, Britannia and Colgate and focused to analysis liquidity and profitability of companies and used mean, standard deviation and co-efficient also used ANOVA for testing the assumption of this study and they concluded that trends in short- term and long term financial components that predict the liquidity in select FMCG companies.

Jitendra Singh Bidawat (2020), He has focused to analysis a study on liquidity management analysis of FMCG industries in India a comparative study of (Dabur, HUL, Colgate, ITC) for period of 2015-2019 with the help of secondary data to measure the liquidity and profitability. The researcher had used ratio analysis and to find impact researcher used ANOVA to test the hypothesis that's to know variance between independent variables.

Mohmad Mushtaq Khan, S.Sreenivasa Murthy, Dr. Syed Khaja S Afiuddin (2019), They had made analysis on impact of liquidity on profitability – A study of selected FMCG companies their scope is to know analysis the liquidity & profitability position and how liquidity impact on profitability of selected FMCG (HUL, ITC, Nestle, Colgate) from 2014-2018 with the help of secondary data. This study had made analysis by using ratio analysis, ANOVA to test their hypothesis and find that their impact of liquidity on profitability

Unnati Y. Parmar, Shailesh N. Ransariya (2019) They had made a study of Indian FMCG sector on the base of liquidity performance The researcher has used simple random sampling for selecting companies based on secondary data period from 2007-2008 to 2016-2017 with the help of secondary data and used ratio analysis. The researcher used one way ANOVA for testing framed hypothesis finally researcher conclude that the liquidity performance and working capital management of select FMCG companies are effective and they concluded that they are accepting alternative hypothesis and reject null hypothesis as it has significant difference between select companies

3. STATEMENT OF PROBLEM:

In this uncertainty world it has more competition and difficult to attain their goal and to be stable in their position. In business motive is to maximize the profit and reputation with minimum risk, In FMCG (Fast moving consumer goods) has wide market so the company stability is fluctuating not stable in sales and profit due to competition. So, it effect firm value. The company success is determined by profitability level. Profit is important in determining the worth of a company, as well as earnings per share and return. The profitability is influenced and effect by more independent variables such as (Liquidity, solvency, efficiency performance).Since profitability functions are dependent on and fluctuate based on their independent variables, these elements must be successfully handled in order to achieve profitability. Hence this study conducts to know the impact of factors effecting profitability level of select FMCG companies in India.

Research questions are

- What is level of liquidity, solvency, efficiency and profitability position of select FMCG companies
- What is level of impact of liquidity, solvency, efficiency on profitability of selected FMCG companies

4. SCOPE OF STUDY:

The financial management is most important and base for business activities whole aspects of business is dependent upon financial aspects of concern so financial management should be effective to take decision, forecast accordingly and make sound profitability position. This study aims to analysis profitability position. It is most important factor as its result of firm, Profitability performance is influenced and effected by many other factors so it's important to analysis the factors which effect profitability and function according to the factors to attain their profitability level. This study helps to know financial performance of select FMCG companies in India and to study impact of independent factors on profitability, by analyzing last 10 years financial statements. This study focuses to know impact of liquidity, solvency and efficiency on profitability with the help of secondary data.

4.1. OBJECTIVES OF STUDY:

- To evaluate liquidity, solvency, efficiency and profitability level of select FMCG companies.
- To analyze and observe impact of liquidity, solvency and efficiency on profitability of select FMCG companies

4.2. RESEARCH GAP:

The majority of the research mainly focused on the FMCG sector's financial performance, liquidity analysis, profitability, turnover efficiency, and working capital analysis. Only few studies is made to know the impact of liquidity on profitability related to FMCG sector and very few studies has been made to consider the Impact of solvency and efficiency on profitability in case of FMCG sector. So the present study is undertaken to know impact of liquidity, solvency and efficiency on profitability of select FMCG companies.

5. RESEARCH METHODOLOGY:

- Research design: Analytical approach and Source of data is Secondary data (websites, Journals, Articles CMIE prowess database software)
- Selection of sample: The selection of company FMCG (Household products) is done with help of **CMIE prowess database software.** The 8 Companies was selected based on **Multistage Purposive Sampling** considering sales value of companies, continuity of data for period of study and companies adopted financial year.
- The list of companies selected for the study are as follows, Hindustan Unilever Ltd, Dabur India Ltd, Procter & Gamble Home products, Colgate-Palmolive (India) Ltd, Emami Ltd, Jyothy Labs Ltd, Galaxy Surfactants Ltd and Bajaj Consumer Care Ltd.
- **Period of study: Ten years** from **(2011-2012 to 2020-2021)**
- **Tools and techniques used:** The analysis is done in the method of **Ratio Analysis** with the statistical tools **(ANOVA and Regression)**

  One of the most common statistical approaches employed by researchers is multiple linear regressions. A regression line is fitted for a response variable employing many explanatory variables in the study. The degrees of freedom are changed in ANOVA calculations for multiple regressions to reflect the number of explanatory variables included in the model. It is made up of equations that offer information about the degrees of variability in a regression model and serve as a foundation for significance tests. The coefficients of continuous and categorical variables are explained in this study

6. ANALYSIS:

6.1. ANALYSIS OF VARIANCE:

Ho: There is no significance mean difference between liquidity ratios, solvency ratios, efficiency ratios, profitability ratios and select FMCG companies during the study period.

Table no: 1 shows ANOVA of ratios of select FMCG companies

ANOVA					
Ratios	**df**	**Mean Square**	**F**	**Sig.**	**Accept / Reject Ho**
Current ratio	7	17.088	67.273	0.00	Reject Ho
Liquid ratio	7	15.927	63.783	0.00	Reject Ho
Absolute liquid ratio	7	16.195	64.199	0.00	Reject Ho
Debt to equity	7	6.391	24.607	0.00	Reject Ho
Debt to assets	7	0.313	39.388	0.00	Reject Ho
Proprietary ratio	7	0.313	39.388	0.00	Reject Ho
Equity multiplier	7	6.391	24.607	0.00	Reject Ho
Total assets turnover ratio	7	0.656	25.47	0.00	Reject Ho
Capital turnover ratio	7	4.269	11.84	0.00	Reject Ho
Working capital ratio	7	1255.385	0.451	0.866	**Accept Ho**
Fixed assets turnover ratio	7	31.912	18.661	0.00	Reject Ho
Inventory turnover	7	15.298	16.094	0.00	Reject Ho
Gross profit ratio	7	977.014	159.761	0.00	Reject Ho
Net profit ratio	7	532.604	43.21	0.00	Reject Ho
Operating profit ratio	7	772.061	51.176	0.00	Reject Ho
Expenses ratio	7	355.039	27.885	0.00	Reject Ho
Return on investment	7	7814.863	22.507	0.00	Reject Ho
Return on shareholder's fund	7	8179.334	28.749	0.00	Reject Ho
Return on assets	7	1045.088	38.283	0.00	Reject Ho

There is significance mean difference between liquidity ratios, solvency ratios, efficiency ratios and profitability of select FMCG companies except Working capital ratio. Since the p value is lesser than 0.05 at significant level of 5% so we reject the null hypothesis, therefore there is a mean difference between the ratios of select FMCG companies.

6.2. SPECIFICATION OF PROFITABILITY MODEL:

The goal of a multiple regression model is to identify relationship between one dependent variable and one or more dependent variables. In this study the multiple regression models is applied to determine the profitability of select FMCG companies

The study considered the following regression model

$Y1= b0 + \beta\ 1x1+ \beta 2x2 + \beta 3x3$

Where Y - Dependent variable - Net profit

B0 – Constant

β1-------**β**11- Regression coefficients

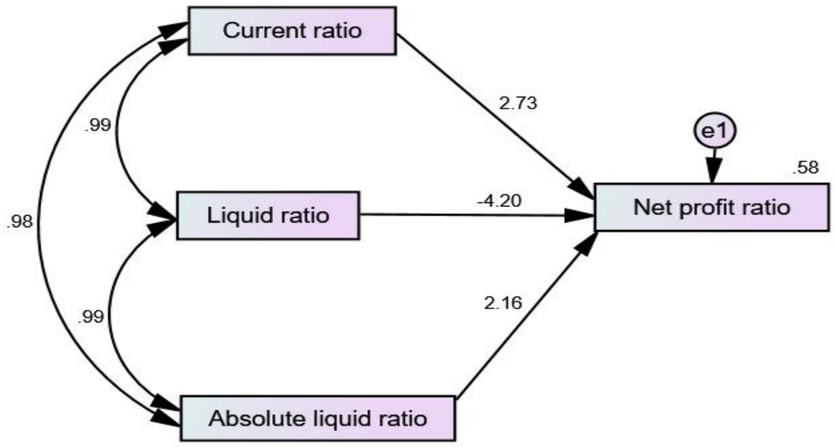
X1- Current Ratio (CR)

X2- Liquid Ratio (LR)
X3- Absolute Liquid Ratio (ALR)

Table no: 2.1 shows Multiple Regression Model of Liquidity on profitability

Variables	Regression Co-efficient	Std. Error	t	Sig
(Constant)	3.590	1.994	1.801	0.076
Current ratio	15.773	3.445	4.578	0.000
Liquid ratio	-25.086	5.254	-4.775	0.000
Absolute liquid ratio	12.787	3.175	4.027	0.000
Multiple R	.760	**Standard Error**	5.06474	
R Square	0.578	**F- Value**	34.646	
Adjusted R2	0.561	**Sig. F**	0.000	

a. Predictors: (Constant), Absolute liquid ratio, Current ratio, Liquid ratio
b. Dependent Variable: Net profit ratio



6.3. INTERPRETATION

The above table shows multiple regression model of liquidity on profitability of select FMCG companies' Current ratio and Absolute Liquid ratio shows positive Regression co-efficient value it indicates it has positive relationship between current ratio and absolute liquid ratio on profitability and Liquid ratio shows negative regression co-efficient value it indicates that it has negative relationship between liquid ratio on profitability. The significant value of all three independent variables is less than p value 0.05 so it has significant effect on profitability. The R square shows that independent variables explain that 0.578% of variations in profitability.

p value is less than 0.05 in ANOVA test, it concluded that independent variable, current ratio, Absolute Liquid ratio and Liquid ratio has a significant effect on changes in Net profit ratio.

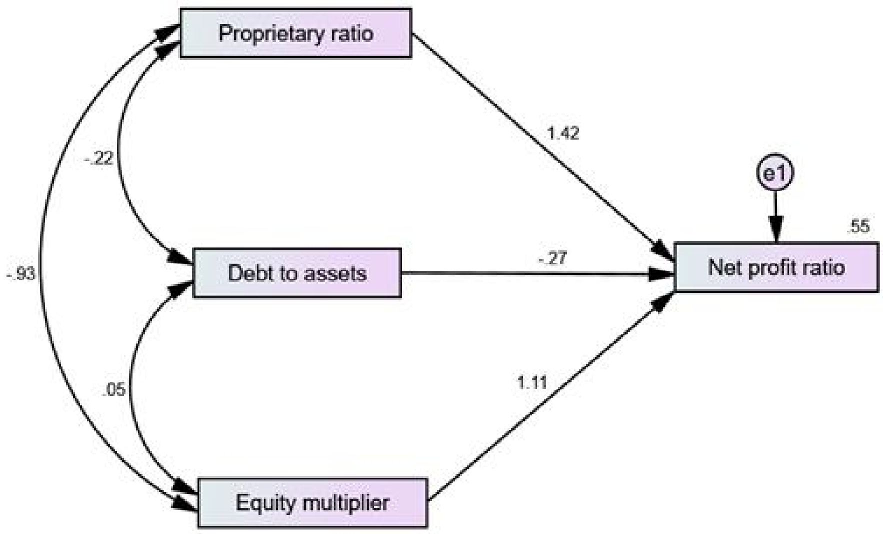
Y2= b0 + β4x4 + β5x5 + β6x6
Where Y - Dependent variable - Net profit
B0 – Constant
β1-------**β**11- Regression coefficients
X4- Debt to Assets Ratio (DA)
X5- Proprietary Ratio (PA)
X6- Equity Multiplier Ratio (EMR)

Table no: 2.2 shows Multiple Regression Model of Solvency on profitability

Variables	Regression Co-efficient	Std. Error	SA	Sig
(Constant)	-36.837	9.199	-4.005	0.000

Debt to assets	-18.034	5.783	-3.119	0.003
Proprietary ratio	58.139	9.329	6.232	0.000
Equity multiplier	9.447	1.902	4.967	0.000
Multiple R	.739	**Standard Error**	5.250	
R Square	0.546	**F- Value**	30.470	
Adjusted R2	0.528	**Sig. F**	0.000	

a. Predictors: (Constant), Equity multiplier, Debt to assets, Proprietary ratio
b. Dependent Variable: Net profit ratio



6.4. INTERPRETATION:

The above table shows multiple regression model of Solvency and profitability of select FMCG company's proprietary ratio and Equity multiplier ratio exhibits positive Regression co-efficient value it indicates it has positive relationship between proprietary ratio and Equity multiplier ratio on profitability and Debt to Assets ratio shows negative regression co-efficient value it indicates that it has negative relationship between Debt to assets on profitability. The significant values of all three independent variables are less than p value 0.05 so it has significant effect on profitability. The R square shows that independent variables explain that 0.546% of variations in profitability.

p value is less than 0.05 in ANOVA test, it concluded that independent variable, Equity multiplier, Debt to assets and Proprietary ratio has a significant effect on changes in Net profit ratio

Y3= b0 + β7x7 + β8x8 + β9x9 + β10x10 + β11x11

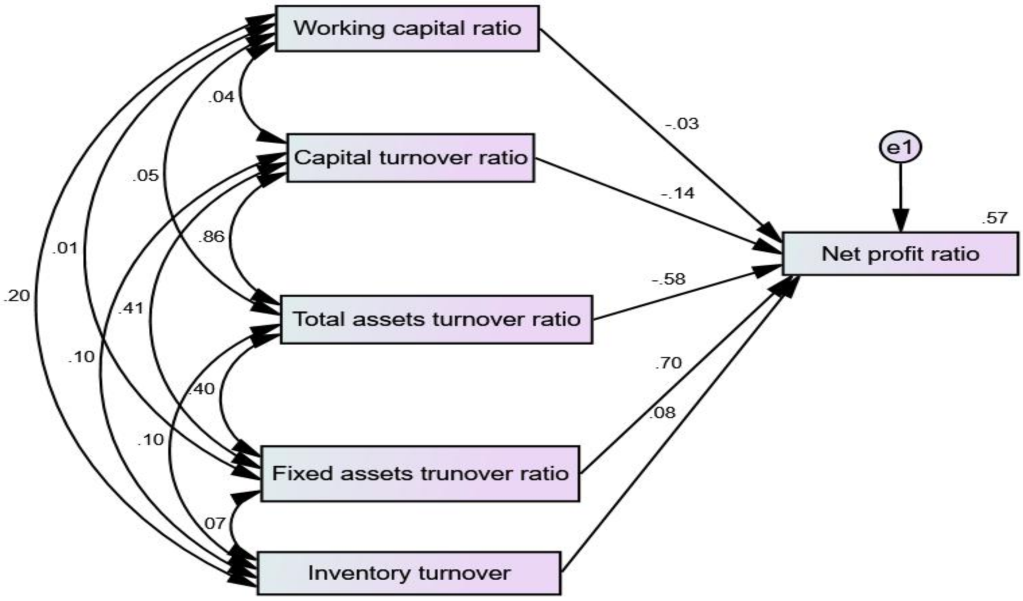
Where Y - Dependent variable - Net profit
B0 – Constant
β1-------**β**11- Regression coefficients
X7- Total Assets Turnover Ratio (TATR)
X8- Capital Turnover Ratio (CTR)
X9- Working Capital Turnover Ratio (WCTR)
X10- Fixed Assets Turnover Ratio (FATR)
X11- Inventory Turnover Ratio (ITR)

Table no: 2.3 Multiple Regression Model of Efficiency on profitability

Variables	Regression Co-efficient	Std. Error	t	Sig
(Constant)	14.639	3.240	4.518	0.000

Total assets turnover ratio	-15.405	3.993	-3.858	0.000
Capital turnover ratio	-1.261	1.359	-0.928	0.356
Working capital ratio	-0.004	0.011	-0.391	0.697
Fixed assets turnover ratio	2.549	0.305	8.357	0.000
Inventory turnover	0.389	0.398	0.976	0.332
Multiple R	.758a	**Standard Error**	5.14877	
R Square	0.575	**F- Value**	20.023	
Adjusted R2	0.546	**Sig. F**	0.000	

a. Predictors: (Constant),Total assets turnover ratio, Capital turnover Ratio, Working capital turnover ratio, Fixed assets turnover ratio, Inventory turnover ratio.
b. Dependent Variable: Net profit ratio



6.5. INTERPRETATION:

The above table shows multiple regression model of Efficiency and profitability of select FMCG companies fixed assets turnover ratio and Inventory turnover ratio shows positive Regression co-efficient value it indicates it has positive relationship between fixed assets turnover ratio and Inventory turnover on profitability and Total assets turnover ratio, capital turnover ratio and working capital turnover ratio shows negative regression co-efficient value it indicates that it has negative relationship between Total assets turnover ratio, capital turnover ratio and working capital turnover ratio on profitability. The significant value of Total assets turnover ratio and fixed assets turnover ratio are less than p value 0.05 so it has significant effect on profitability and capital turnover ratio, working capital ratio and inventory turnover ratio has value more than p value 0.005 it indicates that it has insignificant effect on profitability. The R square displays those independent variables explains that 0.575% of variations in profitability.

p value is less than 0.05 in ANOVA test, it concluded that independent variable, Total assets turnover ratio, Capital turnover Ratio, working capital turnover ratio, fixed assets turnover ratio and Inventory turnover ratio has a significant effect on changes in Net profit ratio.

7. FINDINGS:
Ratio analysis
Liquidity Ratio

- Bajaj consumer care has highest average of current ratio 4.840
- Bajaj consumer care has highest average of liquid ratio4.180
- Bajaj consumer care has highest average of absolute liquid ratio3.933

Solvency Ratio

- Colgate Palmolive India has highest average of debt to equity ratio2.672

- Colgate Palmolive India has highest average of debt to assets ratio 0.721
- Bajaj consumer care has highest average of proprietary ratio 0.846
- Colgate Palmolive India has highest average of equity multiplier ratio 3.672

Efficiency Ratio

- Galaxy surfactants has highest average of total assets turnover ratio 1.178
- HUL has highest average of Capital turnover ratio 2.545
- P&G home care has highest average of working Capital turnover ratio 25.685
- Bajaj consumer care has highest average of fixed assets turnover ratio 6.439
- Bajaj consumer care has highest average of inventory turnover ratio 8.227

Profitability Ratio

- Bajaj consumer care has highest average of gross profit ratio 52.872
- Bajaj consumer care has highest average of net profit ratio 24.938
- Bajaj consumer care has highest average of operating profit ratio 31.711
- P&G home care has highest average of expenses ratio 100.129
- HUL has highest average of return on investment ratio 88.429
- HUL has highest average of return on shareholder's fund ratio 84.115
- Bajaj consumer care has highest average of return on assets ratio 30.156

ANOVA

- There is significant mean difference between liquidity ratios, solvency ratios, efficiency ratios, and profitability of select FMCG companies Except Working capital ratio. so there is no mean difference between the working capital turnover ratio of select FMCG companies.

Regression

- Liquidity on profitability: Current ratio and Absolute Liquid ratio has positive relationship on profitability and Liquid ratio has negative relationship on profitability. All three independent variables has significant effect on profitability. The R square shows that independent variables explain that 0.578% of variations in profitability.
- Solvency on profitability: proprietary ratio and Equity multiplier ratio has positive relationship on profitability and Debt to Assets ratio has negative relationship on profitability. All three independent variables have significant effect on profitability. The R square shows that independent variables explain that 0.546% of variations in profitability.
- fixed assets turnover ratio and Inventory turnover ratio has positive relationship on profitability and Total assets turnover ratio, capital turnover ratio and working capital turnover ratio has negative relationship on profitability. Total assets turnover ratio and fixed assets turnover ratio has significant effect on profitability and capital turnover ratio, working capital ratio and inventory turnover ratio has insignificant effect on profitability. The R square shows that independent variables explain that 0.575% of variations in profitability.

8. SUGGESTIONS:

The company's profitability is dependent upon the independent variable (Liquidity, Solvency and Efficiency performance).

- The liquidity should be managed efficiently because its basic requirement of day to day operations, for having efficient liquidity position company can increase resource (current assets) which can be easily convertible into cash.
- Solvency ratio should be managed optimum level because company should have debts they should not invest more from debt. A companies leverage level should not be more otherwise company should increases their profit to pay back the debts, Because in investor point of view they would not invest in more debt or levered risk firm
- The generation of return from resources like capital employed, working capital, assets, fixed assets, inventories must be more efficient because it help for future investment for business
- The expenses should be minimized because it helps to reduce cost of production and make more profit out of its cost and there must be more cash inflow than outflow for day to day operations because it effects the profitability level. The profitability level is result of firm it should have growth, upward, positive result it helps to attract investor, and public

9. CONCLUSION:

The study was undertaken to analyze the liquidity, solvency, efficiency and profitability performance and to know impact of liquidity, solvency and efficiency on profitability of select FMCG companies. The study is done with the help of secondary data and annual report of companies from prowess software for period of 2011-12 to 2020-21, The analysis is done with help of ratio analysis, (Average, Standard deviation, Co-efficient of variance and CAGR) descriptive data, ANOVA and Regression analysis and found that all select eight FMCG companies are performing well but there are certain minor changes due to level of performances of FMCG companies, And found that in profitability level Bajaj consumer care, Dabur ltd, Colgate Palmolive India and HUL has good performance, on considering liquidity level Bajaj consumer care more liquidity level, considering solvency level Bajaj consumer care has managed good debt level and considering efficiency level HUL, Dabur, Colgate Palmolive India and Bajaj consumer care has good efficiency level. The ANOVA states that there is mean difference between liquidity, solvency and efficiency FMCG companies except Working capital turnover ratio. The regression shows that there is significant relationship between (liquidity, solvency and efficiency on profitability) and there was negative impact in Liquid ratio, debt to assets, Total assets turnover ratio, working capital turnover ratio and capital turnover ratio on profitability and other has positive impact on profitability, Finally Minimization of expenses, cash outflow and efficient way of utilization of resources make a business best performing and generate more revenue. This study concluded that Bajaj consumer care, Dabur, HUL, Colgate Palmolive has good performance due to judicious use resources and P&G home care, Jyothy labs and Galaxy surfactants ltd has inefficient performance

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