ANALYSIS OF WORKING CAPITAL AND PROFITABILITY: AN EVIDENT STUDY OF SELECTED FMCG COMPANIES IN INDIA

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ABSTRACT

In this research paper shows the relationship between working capital management determinants on profitability. Working capital management (WCM) is one of the pre-conditions for the financial management of any organization or companies. This research paper the author's aims maintaining an adequate amount of readily available cash resources in the business for carrying out the daily operations of the company. Profitability is the depended variables whereas determinants of working capital are independent variables such as average collection period, inventory turnover in days, average payment period were used to assess working capital management, and return on total assets. In this study has considered sample of the size of five FMCG companies in India over a five year period from 2013 to 2017. The analysis done by using OLS Regression show whether there is a significant relationship between these variables.

Keywords: Profitability, Return on assets, Working Capital, debtor's turnover ratio, FMCG companies

INTRODUCTION

Working capital management is the most importance work or function of finance, takes care of the financing activities, liquidity position and profitability position of the Firm or any company. In the present scenario of the competitive market short-term assets and liabilities are most important components of total assets and essential to be analysed very carefully at the side of long-term assets and liabilities. Management of this short-term assets and liabilities are subject to Research cautiously from the time because working capital management plays the most importance role for the company's profitability and risk as well as its value. Working capital is known as a short term assets which company uses it in per day activities. It means the working capital is known as an Emblem or indicator for determining the liquidity which is well-defined as adequacy of cash for doing company's obligations". Generally, on basis of daily uses all short term assets are included in working capital. In the area of financial management, working capital management is a very delicate field. Working capital management is also very most important for the firm's or company success; so companies are trying to maintain optimal levels of working capital. Any Company is assuming methods for handling proper level in various components of working capital i.e., cash receivables, inventory and payables etc. similar to the other business sectors, efficient management of working capital is equally important for the Fast Moving Goods Consumer goods (FMCG) as well. Profitability of the firm's or any company can be defined as the last or final measure of the economic success achieved by a company in relation to the capital invested in it. This economic success is determined by the magnitude of the net profit accounting. To achieve an appropriate return over the amount of risk accepted by the shareholders, is the main objective of companies operating in capitalist economies. After all, profit is the propulsive element of any investments in different projects. The assessment of profitability is usually done through the ROI (Return on Investment = (Net Profit/Sales) X (Sales/Capital Employed) which is the ultimate measure of economic success. Current position of FMCG companies is the fourth largest industry in the economy with the revenue generation of USD 47.3 billion during 2015. The industry deals with packaged consumer goods having a shift turnover and comparatively low cost. The goods generally, include soaps, beauty products, oral care products, foot wears, dairy products, food and beverages along with non-durables like bulbs, stationary products and

plastic products. The rudimentary characteristic of these goods is that they are substituted within a year. The innovative electronic items such as mobile phones, digital camera, Laptops and MP3 players are also included in FMCGs as these are replaced more often than other electronic items. The industry has brought a change in the life of every Indian and has the widest reach among all sectors in India. A major part of the monthly budget of each household is secured for FMCG products.

RELATED REVIEW OF LITERATURE:

Following reviews of literature covers research studies conducted on impact of profitability on working capital.

- **Mittal et al (2010),** studied the examined the trends in working capital management taking the case of the cement industry in India as their sample. He studied a sample of two companies namely Gujarat Ambuja Cements Ltd (GAC Ltd) and Associated Cement Companies Limited (ACC Ltd), considered the market leaders and principal competitors. The period of study was for four years, 2006-2009. The data used was the secondary data that was collected from the company balance sheets. The objectives of the study were to understand the size of the working capital in the cement industry in India and find trends in the working capital management in the industry. The different variables studied were sales, total assets, and net profit.

- **Anandasayanam (2011)** studied 80 Sri Lankan Listed companies for the years 2003 to 2009 and refuted the earlier results. The results of this study were based on panel data analysis and also took into consideration variables like growth, size of company and debt-equity ratio as control variables. The results showed that working capital management had a significantly negative impact on the profitability of the companies. Moreover, the study disclosed that the influence of other variables like growth, size and financial structure should not be ignored. The author suggested the companies to keep their conversion period minimum in order to maximize profits.

- **Bhunia, Khan (2011)** analysed the association of liquidity management, in other words, working capital management and profitability of steel companies in the private sector in India. The main objectives of the authors were to study the overall efficiency of management of short term liquidity and its relation to profitability. The authors studied a

sample of 230 steel companies in the private sector in the Indian industry and studied them over a period of eight years i.e. 2002-2010. The dependent variable is defined as the profitability of the sample firms. The independent variables used were the following Current Ratio (CR), Liquid Ratio (LR), Absolute Liquid Ratio (ALR), Debt-Equity Ratio (DER), Interest Coverage Ratio (ICR), Inventory Turnover Ratio (ITR), Debtors Turnover Ratio (DTR), and Creditors Turnover Ratio (CTR). After doing multiple regression analysis, Correlation analysis and Descriptive statistics, the authors concluded that liquidity and solvency position in terms of debt is very satisfactory and relatively efficient liquidity management is found but liquidity position has no impact on profitability.

- **Bhagchi, Kamrui (2012)** studied the effect of working capital management on profitability on the FMCG sector in India. The study was conducted on a sample of ten FMCG firms over a period of ten years 2000-01 to 2009-10. The main objective of the authors was to understand the impact of working capital management on profitability and to see the impact of various components of working capital management on profitability. After conducting normality tests, Pearson's Correlation and panel data regression, the authors concluded that there was a significant negative relation between working capital management and firm profitability.

- **Panigrahi (2012)** based on the case study on the cement company in India, i.e. ACC Ltd. during 1900-00 to 2009-10 found that there existed a moderate relationship between working capital management and profitability as few working capital variables had a positive impact on profitability while the others had negative. It was concluded that even though there was some influence of working capital management on the profitability, it was highly insignificant.

- **Bamal et al (2013)** made a comparative analysis of chemical and pharmaceutical industries in India from 2002 to 2011 to understand the relationship between working capital management and profitability. The findings depicted that the working capital management variables had a strong positive association with the profitability variables of the chemical industry than that of the pharmaceutical industry. The working capital variables had positive but insignificant influence on the profitability position of the pharmaceutical companies.

- Lastly, the research works by **Mawutor (2014)** and **Kodithuwakku (2015)** on manufacturing companies of Ghana (2006-2010) and manufacturing companies listed on Columbia Stock exchange (2008-2012) respectively presented a similar view. The results showed that the working capital management had significantly negative influence on the profitability. Further, it was also shown in the analysis that the variables like growth, the size of the company and debt-equity ratio also had a strong influence on the profitability apart from the working capital management.

STATEMENT OF PROBLEM:

In this research paper the author shows analysis of working capital and profitability of selected large and small FMCG Company. In this study profitability is a dependent variable whereas determinants of working capital are independent variables such as inventory turnover ratio, debtors turnover ratio, current ratio, and profitability measure return on assets.

Significant and need of study: The present study helps especially for the creditors, investors and other stake holders to known that the short term liquidity position of the company and profitability relationship in select FMCG companies in India.

OBJECTIVE OF THE STUDY:

In this research paper the author's study aims at analysing the working capital management of FMCG (fast moving consumer goods) companies in India. The main objectives are:

1. To study the working capital and profitability position of the select large and small companies of the FMCG industry.
2. To study examine the impact of working capital management on profitability of the select large and small companies of the FMCG industry.

RESEARCH METHODOLOGY:

Sample size:

In this study sample size is three large size company (on the basis income) companies under FMCG sector. In this study we choose the following sample of company to analysis the impact

of working capital on profitability of FMCG sector in India. Hindustan Unilever Limited (HUL), India Tobacco Company (ITC), Britannia Ltd. Procter & Gamble Company (P&G), NIRMA, Parle agro Pvt Ltd.

SAMPLING METHOD:

In this study five leading companies were selected on the basis of sales turnover.

Data selection:

The present study analyses the financial data of select 3 large FMCG companies. Hindustan Unilever Limited (HUL), ITC Ltd., Britannia, and 3 small FMCG companies Nirma, P&G, Emami, The financial data of the companies are collected for a period of 5 years from FY2012-13 to FY2016-17 from PROWESS software of the CMIE Database which has been suitably rearranged, classified and tabulated according to the requirements of the study. In addition, the Economic Survey of India of different years, research publications, various books, journals, newspapers, related websites, Publications of Bombay stock exchange (BSE) and National Stock exchange (NSE) of India have been viewed for collecting the required data.

Variable select for the study are given bellow:

Categories	variable	formula
Dependent variable	Return on Assets	Profit after tax/ total assets
Independent variable	Current Ratio (CR)	Current Assets/ Current Liabilities
	Inventory turnover ratio(ITR)	Sales / average Inventory
	Debtors turnover ratio(DTR)	Net credit sales / average debtors

Period of the study:

In this study has been undertaken for a period of 5 year from 2012-13 to 2016-17.

Tolls used for analysis:

The data has been analysed essentially using ratio analysis. Linear Regression is used to identify relationship between the variables and state hypothesis, statistically significant at a confidence level of 95%.

Hypothesis of study:

In this research paper the researcher starts the study with the following broader hypotheses.

1. Null hypothesis (2) Alternative hypothesis
2. (1)**Null Hypothesis:** There is no significant relationship between Working capital and profitability Large and small size of the firm.
3. **Alternative Hypothesis:** There is significant relationship between Working capital and profitability Large and small size of the firm.

Analysis:

This paper test the linearity and normality of time series data used in study regression models present below was used to test on the relationship between the variables of study.

$$Y = \beta_0 + \beta_1 X_1 + \varepsilon$$

Y = Return on Assets (Dependent)

β_0 = Intercept (constant) β_1 = effect of Independent variable

X_1 = Average Current Ratio (Independent) β_2 = effect of Independent variable

X_2 = Average Debtors Ratio (Independent) β_3 = effect of Independent variable

X_3 = Average Inventory Ratio (Independent) ε = Error term

The confidence level for the present study has been taken as 95%.

R shows the correlation between independent and dependent variable. R square show the variation and we can predict the variation in profit. Adjusted R square to closely reflect the goodness of fit of the model. The higher R square is better for the model. T test used to test the individual sig. of the predictor variables use to the study.

Large company of FMCG industry- (HUL, ITC, BRITANNIA)

YEAR	AVERAGE RETURN ON ASSETS	AVERAGE CURRENT RATIO	AVRAGE DTR	AVERAGE ITR
2012-13	16.02	1.09	49.61	11.37
2013-14	19.96	1.15	50.12	11.45
2014-15	21.41	1.33	57.48	13.41
2015-16	20.48	1.15	43.04	13.66
2016-17	23.87	2.08	36.69	12.02

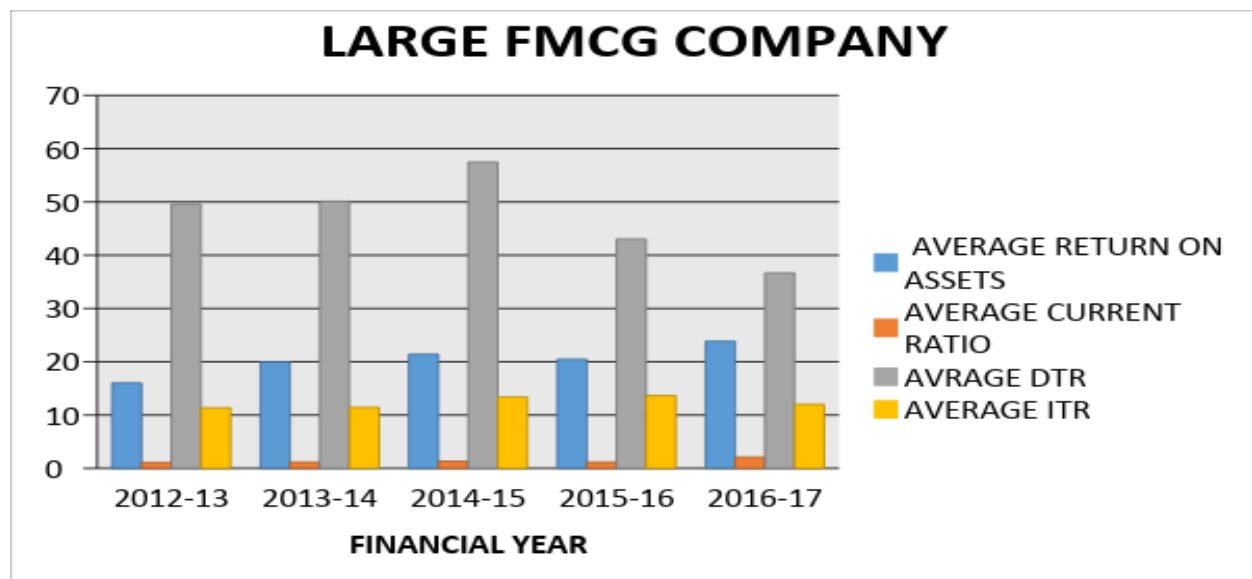Source: Annual reports of HUL, ITC, BRITANNIA 2012-13 to 2016-17

Fig 1: Source: Annual reports of HUL, ITC, BRITANNIA 2012-13 to 2016-17

Hypothesis testing

Table 1-Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.901[a]	.812	.246	2.47197

a. Predictors: (Constant), AVERAGE ITR, AVERAGE CURRENT RATIO, AVRAGE DTR

In this table R shows the high correlation between Independent and Dependent variable but this relation is negative (-0.901). R square show the AITR, ACR, ADTR, predicts 81.2% variation in Return on Assets of large FMCG companies.

Table 2-ANOVA^a

	Model	Sum of Squares	df	Mean Square	F	Sig.
	Regression	26.321	3	8.774	1.436	535[b]
1	Residual	6.111	1	6.111		
	Total	32.432	4			

a. Dependent Variable: AVERAGE RETURN ON ASSETS
b. Predictors: (Constant), AVERAGE ITR, AVERAGE CURRENT RATIO, AVRAGE DTR

The regression result shows the significant level (p value) of F statistics. Show that Influence of R on Return on Assets in Large size of the FMCG industry. The result of ANOVA is 1.436 at 1/3 degree of freedom and 5% Level of significant revelling that Return on Assets Influence current ratio, inventory turnover ratio, debtors turnover ratio, in select large FMCG sector. The table indicates the regression models predict dependent variable significantly because P value 0.535 is more than 0.05. So our Null Hypothesis is accepted and alternate Hypothesis is rejected.

Table 3-Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	-2.596	18.889		-.137	913
AVERAGE CURRENT RATIO	5.953	3.889	.862	1.531	368
AVRAGE DTR	.027	.205	.075	.133	916
AVERAGE ITR	1.095	1.146	.418	.955	515

a. Dependent Variable: AVERAGE RETURN ON ASSETS

The coefficient table provides the necessary information to predict Return on Assets from current ratio, inventory turnover ratio, debtors turnover ratio,, as well as determine whether current ratio, inventory turnover ratio, debtors turnover ratio, contribute statistically significantly to the model. Average Return on Assets = -2.596 – 5.953, .027, 1.095, (Average current ratio, Average inventory turnover ratio, Average debtors turnover ratio) + ε

The beta coefficients in the regression show that Net Average current ratio, Average inventory turnover ratio, Average debtors turnover ratio has positive relationship with Return on Assets in these FMCG Companies provided by coefficient value of -0.862, .075, .418. The findings show Return on Assets is statistically significant with p-value less than 0.05.

Small company of FMCG industry- (P&G, EMAMI, PARLE AGRO)

YEAR	AVERAGE RETURN ON ASSETS	AVERAGE CURRENT RATIO	AVRAGE DTR	AVERAGE ITR
2012-13	154.3	1.65	19.85	12.77
2013-14	174.58	1.77	19.45	12.8
2014-15	203.31	1.82	21.71	14.92
2015-16	233.06	1.64	26.08	14.57
2016-17	140.51	0.92	24.69	9.86

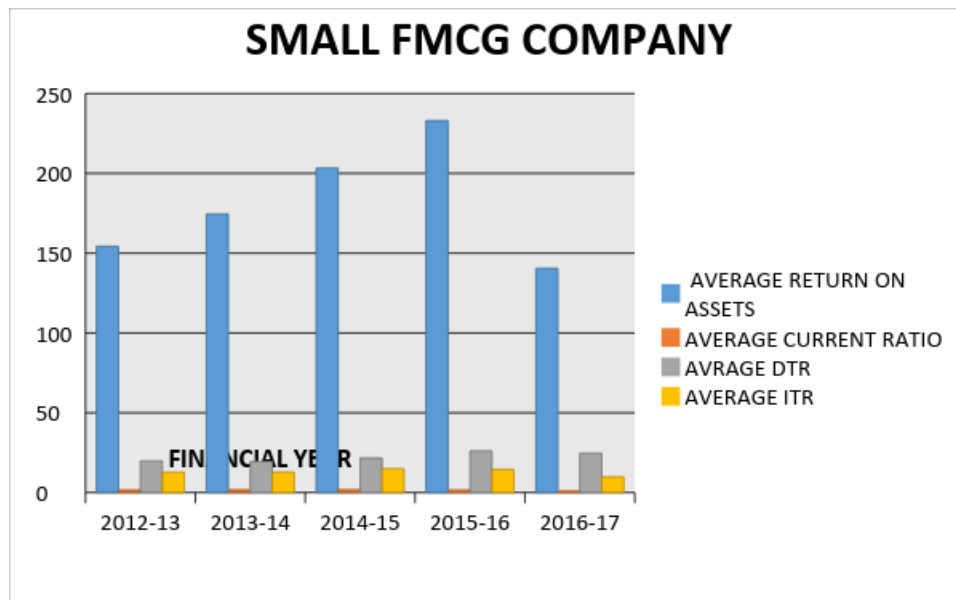Source: Annual reports of P&G, EMAMI, PARLE AGRO 2012-13 to 2016-17

Fig 2: Source: Annual reports of P&G, EMAMI, PARLE AGRO 2012-13 to 2016-17

Hypothesis testing

Table – 4 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.994[a]	.987	.949	8.44654

a. Predictors: (Constant), AVERAGE ITR, AVRAGE DTR, AVERAGE CURRENT RATIO

In this table R shows the high correlation between Independent and Dependent variable but this relation is negative (-0.994). R square show the AITR, ACR, ADTR, predicts 98.7% variation in Return on Assets of large FMCG companies.

Table -5 ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5530.067	3	1843.356	25.838	.143[b]
	Residual	71.344	1	71.344		
	Total	5601.411	4			

a. Dependent Variable: AVERAGE RETURN ON ASSETS
b. Predictors: (Constant), AVERAGE ITR, AVRAGE DTR, AVERAGE CURRENT RATIO

The regression result shows the significant level (p value) of F statistics. Show that Influence of R on Return on Assets in Large size of the FMCG industry. The result of ANOVA is 25.838 at 1/3 degree of freedom and 5% Level of significant revelling that Return on Assets Influence current ratio, inventory turnover ratio, debtors turnover ratio, in select large FMCG sector. The table indicates the regression models predict dependent variable significantly because P value 0.143 is more than 0.05. So our Null Hypothesis is accepted and alternate Hypothesis is rejected.

Table- 6 Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	-270.670	73.164		3.699	168
AVERAGE CURRENT RATIO	130.498	70.699	1.276	1.846	316
AVRAGE DTR	13.121	4.269	1.029	3.074	200
AVERAGE ITR	-3.473	11.103	-.186	-.313	807

a. Dependent Variable: AVERAGE RETURN ON ASSETS

The coefficient table provides the necessary information to predict Return on Assets from current ratio, inventory turnover ratio, debtors turnover ratio,, as well as determine whether current ratio, inventory turnover ratio, debtors turnover ratio, contribute statistically significantly to the model. Average Return on Assets = -270.670 – 130.498, 13.121, -3.473, (Average current ratio, Average inventory turnover ratio, Average debtors turnover ratio) + ε

The beta coefficients in the regression show that Net Average current ratio, Average inventory turnover ratio, Average debtors turnover ratio has positive relationship with Return on Assets in these FMCG Companies provided by coefficient value of -1.276, 1.029, -.186. The findings show Return on Assets is statistically significant with p-value less than 0.05.

Null Hypothesis	There is no significant relationship between Working capital and profitability of Large and small size of the FMCG companies.	rejected
Alternative Hypothesis	There is significant relationship between Working capital and profitability of Large and small size of the FMCG companies.	accepted

CONCLUSION:

The FMCG Industry is one of the prominent Industries of the Indian Manufacturing sector. The study aims to analysis of working capital management and profitability of the selected large and small FMCG Company for the period of 2012-13 to 2016-17. The result of the study both Income size company profitability highly correlated with their working capital so working capital impact on its profitability but this impact is higher in large income size company and other hand minimum impact of working capital on small income size company because large size company is required high working capital for daily needs than small income size company. In small income size companies receivable management is good than large income group. All other factor in large income size companies affective like debt and equity government security investment opportunities and fund availability excess of market etc. also affect the profitability of firms.

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