

A COMPARATIVE STUDY ON WORKING CAPITAL MANAGEMENT BETWEEN PROFIT MAKING AND LOSS MAKING FMCG COMPANIES IN INDIA

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Abstract

The present study is an attempt to compare working capital management on profitability between selected top 10 profit making companies with 10 loss making FMCG companies as per BSE/NSE for the period 1999-2000 to 2013-2014. Return on Assets was taken as indicator of firm's profitability. A panel data analysis had been done to examine the relationship between working capital management and profitability. The study showed that in case of profit making companies, receivable collection period and financial debt ratio had significant and negative impact on profitability and current assets turnover had significant and positive impact on profitability. But in case of loss making companies, receivable collection period, inventory holding period, cash conversion cycle, current ratio, and financial debt ratio had significant and negative impact on profitability and current assets to total assets ratio and size had significant and positive impact on profitability.

Keywords: *FMCG Companies, Working capital management, Return on Assets*

1. Introduction:

Working capital management is an integral component of the overall corporate strategies which aimed to create shareholders value. Working capital is the most crucial factor for maintaining liquidity, survival, solvency and profitability of business. Efficient working capital management is highly desirable for firm's growth and sustainability because of its effect on profitability and risk. Working capital management is important due to many reasons. Most of the manufacturing firms have current assets about half of the total assets. Day to day operating transaction of the firm is performed with the help of these current assets. An excessive level of current assets is generated idle fund from which no return is obtained. However firms with too few current assets may hamper production, purchase and

sales. Efficient working capital management helps to maintain desire level of working capital by removing the problem of inadequate and redundant amount of working capital. Profitability of a firm depends on proper utilisation of the current assets. An efficient working capital management involves the decision of the amount and composition of current assets and the financing of these assets. It helps to maintain desire level of liquidity of the firm. The effectiveness of the fixed assets depends on the current assets. Working capital management makes required change in working capital by keeping consistency with the changes in degree of effectiveness of the fixed assets. Amongst the research issues in the field of corporate finance, working capital management is one of the most significant research problems. Sometimes, organizations face the problem of insolvency or bankruptcy due to insufficient of liquidity. So, it is required for all companies to maintain an optimal level of working capital.

The present study focuses on FMCG industry. The FMCG industry of India is the fourth largest industry in the country. The large base of FMCG industry is now producing wide range of food, toiletries, soap, body wash, shampoos, cosmetics, toothpastes, shaving products, detergents, bulbs, batteries as well as electronics products. FMCG is a classic case of low margin and high volume business. It is one of the fastest developing sectors in the Indian economy. The market size of FMCG in India is estimated to grow from US\$ 30 billion in 2011 to US\$ 74 billion in 2018. Like other manufacturing industry FMCG industry's turnover does not depend upon their production, it depends upon the capability to sales in the competitive market, therefore maximum resources are utilized for marketing and promotion of product rather than manufacturing activities, etc. FMCG companies due to efficient supply chain management and efficient inventory holding, level of inventory comes down to significant lower level as compared to other industry (such as manufacturing). Similarly due to the cash base of business, level of debtors are also lower which significantly decreases the level of current assets another important change in the nature of investors is, rational thinking about investment.

In this context, it makes sense to look at how working capital management impact on profitability of both profitmaking and lossmaking Indian FMCG companies.

2. Review of literature:

The results from the notable studies that have been carried out are briefly mentioned below:

Deloof (2003), in his article "Does Working Capital Management Affect Profitability of Belgian Firms?" found a significant negative relation between gross operating income and

the number of days accounts receivable, inventories and accounts payable of Belgian firms. The study suggested that managers can create value for their shareholders by reducing the number of day's accounts receivable and inventories to a reasonable minimum. **Padachi (2006)**, in his article "Trends in Working Capital Management and its Impact on Firms' Performance: An Analysis of Mauritian Small Manufacturing Firms" for a sample of 58 manufacturing firms for the period 1998-2003 indicated that high investment in inventories and receivables was associated with lower profitability. The study also showed an increasing trend in the short-term component of working capital financing. **Raheman & Nasr (2007)**, in their article "Working Capital Management and Profitability – Case of Pakistani Firms" showed that there is a strong negative relationship between variables of the working capital management and Profitability and significant negative relationship between liquidity and profitability. The study also showed that there is a positive relationship between size of the firm and its profitability and a significant negative relationship between debt used by the firm and its profitability. **Mohamad & Saad (2010)**, in their article "Working Capital Management: The Effect of Market Valuation and Profitability in Malaysia" showed that there are significant negative associations between working capital variables with firms performance. The study also showed that Current Assets to Total Assets Ratio have positive significant relationships with Tobin Q, return on asset and return on invested capital and cash conversion cycles, current asset to current liabilities and current liabilities to total asset ratio have negative significant relations with Tobin Q, return on asset and return on invested capital. Total debt to total assets is negatively significant with return on asset only but insignificant with return on invested capital, while positively significant with Tobin Q. **Ali (2011)**, in his article "Working Capital Management and the Profitability of the Manufacturing Sector: A Case Study of Pakistan's Textile Industry" for a sample of 160 textile firms for the period 2000 to 2005 showed that Return on assets is significantly and negatively related to average days receivable and average day payable, significantly and positively related to average days in inventory and cash conversion cycle. **Charitou, Lois, Santoso (2012)**, in their article "The Relationship between Working Capital Management and Firm's Profitability: An Empirical Investigation for an Emerging Asian Country" for a sample of 728 listed firm in Indonesian Stock Exchange for the period 1998 to 2010 indicated that the Cash Conversion Cycle and Net Trade Cycle are positively related with the firm's profitability. **Lingesiya & Nalini (2013)**, in their article "Working Capital Management and Firms' Performance: An Analysis of Sri Lankan Manufacturing Companies" for a sample of 30 listed company for the period 2006 to 2010 emphasized that high investment in

inventories and receivables lead to lower profitability and current assets to total assets lead to higher profitability. The study also conclude that the working capital management very much influences on profitability of manufacturing companies and increase of the cash conversion cycle leads to less profitability. Current ratio and Quick ratio were positively related to the profitability. **Jayarathne (2014)**, in his article “Impact of Working Capital Management on Profitability: Evidence from Listed Companies in Sri Lanka” for a sample of 20 listed company from Colombo Stock Exchange for the period 2008-2012 indicated that the profitability is negatively associated with the account receivable period, inventory turnover period, and cash conversion cycle and positively associated with account payable period. **Maheswari (2015)**, in his article “Financial Performance of Hero Honda Motors Limited, New Delhi” for the period 2002-03 to 2009-10 showed that the liquidity, profitability and solvency position of the company are highly satisfactory financial performance. The study also recommended reducing the creditors and other short term loans to the maximum possible extent so as to help keep a good amount of liquidity in the future periods.

Research gap:

On the basis of the above literatures, it is found that earlier literature had not done comparative study of working capital management on profitability between the profit making and loss making FMCG companies in India. In this context, it makes sense to look at how working capital management impact on profitability both in case of profitmaking and lossmaking Indian FMCG companies.

3. Objective of the study:

To assess empirically a comparative study of impact of working capital management on profitability between profitmaking and lossmaking FMCG companies in India.

4. Hypothesis:

H₀: There is no association between working capital management and profitability of both the profitmaking and lossmaking FMCG companies.

H₁: There is an association between working capital management and profitability of both the profitmaking and lossmaking FMCG companies.

5. Database and Methodology:

The study was mainly based on secondary data. Data were collected from the published annual reports of the selected companies and Ace Equity database. There were 20 FMCG companies selected from listed in NSE or BSE (Appendix 1). I had taken top10 profit making companies and bottom 10 loss making companies of which data were available from

published report. The companies were selected on the basis of their last (2000-2014) fifteen years average net profit. For analyzing the data, panel data regression had been used. The panel analysis had been done with the help of STATA Package.

I had calculated mean values of different variables to get average, standard deviation and coefficient of variation have used to get fluctuations or variation about the mean values of the financial variables. For identifying the nature of the trend in each of the selected ratios during the period under study linear trend equation was fitted and in order to examine whether the slopes of the trend lines were statistically significant or not t-test was used. The estimated coefficient of the straight line trend equation $Y_t = a + b_t$.

Where, Y_t = the variable whose over time trend is measured;

t = time variable; a= intercept;

b =coefficient of the time variable which measures the slopes of the trend lines;

In panel data estimation three models namely the Pooled OLS regression model, Fixed effects model (FEM) and Random effect model (REM) are estimated for each analysis. In Pooled OLS regression model is neglect the cross section and time series nature of data. FEM allows for Heterogeneity or individuality among 20 companies by allowing having its own intercept value and in REM have a common mean value for the intercept. The choice amongst the three model three statistical test, viz, the Restricted F Test, Breusch-Pagan Lagrange Multiplier Test and Hausman Test are carried out. The Restricted F Test is applied to make a choice between Pooled OLS regression model and FEM. On the other hand, Breusch-Pagan Lagrange Multiplier Test is applied to make a choice between Pooled OLS regression model and REM. The test is based on the null hypothesis that Pooled OLS regression model is appropriate. Rejection of null hypothesis suggests that there are Random effects in the relationship. The Hausman Test (1978) is applied to make choice between the FEM and REM the test is based on the null hypothesis that REM is appropriate. If probability of Chi^2 is significant I use FEM. If probability of Chi^2 is insignificant I use REM. To judge the stationary of the selected variables I had done panel unit root test by Levin-Lin-Chu unit-root test. The VIF was used measure of the degree of multi-collinearity of an independent variable with the other independent variables in a regression model. Robust standard error was used to remove the problem of heteroskedasticity in the models.

The indicator employed for firm's profitability was return on assets (ROA) it is better measure because it relates the profitability of the business to the asset base. The efficiency ratios were receivable collection period (RCP), inventory holding period (IHP), accounts payable period (APP), Cash conversion cycle (CCC) and Current assets turnover (CATURN).

Current ratio (CR) was measured liquidity of firms. Current liabilities to total assets (CLTA) and Current Assets to total assets (CATA) were used to check financing and investing policy of working capital management. Financial debt ratios (FDR) and natural logarithm of sales (LOS) were represented leverage and size of the firms. All the variables were used in the ratio calculation and the formula of the ratios are given in the Appendix 2.

In order to assess a comparative analysis of impact of working capital management on profitability between profitmaking and lossmaking FMCG companies in India, I had fitted four regression models as follows:

Model 1: In this model I had examined the impact of efficiency of receivable management on financial performances of the companies, assuming other variables remain constant.

$$ROA_{it} = \beta_0 + \beta_1 RCP_{it} + \beta_2 CATURN_{it} + \beta_3 CR_{it} + \beta_4 CATA_{it} + \beta_5 CLTA_{it} + \beta_6 FDR_{it} + \beta_7 LOS_{it} + u_{it}$$

Model 2: In this model, I had examined the impact of efficiency of Inventory management on financial performances of the companies measured by ROA, assuming other variables remain constant.

$$ROA_{it} = \beta_0 + \beta_1 IHP_{it} + \beta_2 CATURN_{it} + \beta_3 CR_{it} + \beta_4 CATA_{it} + \beta_5 CLTA_{it} + \beta_6 FDR_{it} + \beta_7 LOS_{it} + u_{it}$$

Model 3: In this model, I had examined the impact of efficiency of payable management on financial performances of the companies measured by ROA, assuming other variables remain constant.

$$ROA_{it} = \beta_0 + \beta_1 APP_{it} + \beta_2 CATURN_{it} + \beta_3 CR_{it} + \beta_4 CATA_{it} + \beta_5 CLTA_{it} + \beta_6 FDR_{it} + \beta_7 LOS_{it} + u_{it}$$

Model 4: In this model, I had examined the impact of efficiency of Cash management on financial performances of the companies, assuming other variables remain constant.

$$ROA_{it} = \beta_0 + \beta_1 CCC_{it} + \beta_2 CATURN_{it} + \beta_3 CR_{it} + \beta_4 CATA_{it} + \beta_5 CLTA_{it} + \beta_6 FDR_{it} + \beta_7 LOS_{it} + u_{it}$$

6. Findings:

In order to assess a comparative analysis of impact of working capital management on profitability between profitmaking and lossmaking FMCG companies in India, I had calculated the profitability ratio, efficiency ratio, liquidity ratio, investing ratio, financing ratio, leverage ratio and other related ratios which were depicted in the following table:

Table 1: Descriptive statistics of variables of selected profitmaking FMCG companies

Year	Profitability	Efficiency					Liquidity	Investing	Financing	Leverage	Size
	Return on Assets (ROA)	Receivable collection period (RCP)	Inventory holding period (IHP)	Accounts payable period (APP)	Cash Conversion Cycle (CCC)	Current Assets Turnover (CATURN)	Current ratio	Current Assets to Total Assets (CATA)	Current Liabilities to Total Assets (CLTA)	Financial Debt Ratio (FDR)	Natural Logarithm of sale (LOS)
2000	23.21	18	37	119	-64	4	2.30	0.50	0.36	0.47	7.85
2001	24.81	21	37	127	-69	3	2.91	0.53	0.38	0.50	7.92
2002	27.33	26	38	145	-81	3	2.67	0.54	0.36	0.47	7.98
2003	26.90	22	37	147	-89	3	2.77	0.57	0.37	0.43	8.00
2004	28.92	18	36	140	-86	3	2.13	0.61	0.41	0.47	8.05
2005	31.42	17	36	129	-76	3	2.09	0.60	0.41	0.47	8.12
2006	32.12	13	36	127	-78	3	1.82	0.59	0.42	0.47	8.25
2007	33.23	10	33	119	-75	3	1.52	0.65	0.50	0.52	8.41
2008	36.56	10	35	122	-77	3	1.51	0.66	0.53	0.58	8.54
2009	38.34	9	35	117	-73	3	1.55	0.61	0.47	0.57	8.74
2010	37.02	10	36	130	-84	3	1.50	0.65	0.51	0.60	8.78
2011	36.46	12	37	104	-55	3	1.35	0.56	0.45	0.60	8.93
2012	35.46	11	37	86	-37	3	1.41	0.58	0.43	0.56	9.08
2013	33.72	11	35	86	-41	3	1.46	0.55	0.42	0.51	9.24
2014	37.59	11	34	87	-42	3	1.62	0.56	0.39	0.46	9.34
Maximum	38.34	26	38	147	-37	4	2.91	0.66	0.53	0.60	9.34
Minimum	23.21	9	33	86	-89	3	1.35	0.50	0.36	0.43	7.85
Average	32.21	15	36	119	-68	3	1.91	0.58	0.43	0.51	8.60
Standard Deviation	4.93	5.25	1.23	20.11	16.98	0.20	0.54	0.05	0.05	0.06	0.51
Coefficient of variation (CV)	15.29	35.97	3.42	16.91	-24.80	6.25	28.08	8.04	12.61	11.02	5.88
Slope of the Trend line	0.984	-0.944	-0.136	-7.514	2.468	-0.015	-0.103	0.003	0.006	0.006	0.112
t-value	7.174*	-4.880*	-2.064***	-6.122*	3.070*	-1.25	-5.980*	1.163	2.057***	2.160**	20.585*

Source: Computed by the author

From the above table it is found that in case of Profit making companies the average return on assets was 32.21. The standard deviation was 4.93 and the coefficient of variation percentage was 15.29. The straight line trend fitted to the ROA indicated an increasing trend which was statistically significant at 1 per cent level.

The average receivable collection period was 15 days. It indicated prompt payment made by the customers and a tightening of credit policies. The standard deviation was 5.25 and the

coefficient of variation percentage was 35.97. The straight line trend fitted to the RCP was in a decreasing trend and statistically significant at 1 per cent probability level.

The average Inventory holding period was 36 days. It indicated a relatively low level of stocks and efficient of inventory management. The standard deviation was 1.23 and the coefficient of variation percentage was 3.42. The straight line trend fitted to the IHP was in a decreasing trend and statistically significant at 10 per cent probability level.

The average accounts payable period was 119 days. The standard deviation was 20 and the coefficient of variation percentage was 17. The straight line trend fitted to the APP was in a decreasing trend and statistically significant at 1 per cent probability level.

The average cash conversion cycle was -68 days. The standard deviation was 17 and the coefficient of variation percentage was -25. The straight line trend fitted to the CCC was in an increasing trend and statistically significant at 1 per cent probability level.

The average current assets turnover was 3.22. The standard deviation was 0.20 and the coefficient of variation percentage was 6.25. The straight line trend fitted to the CATURN during the study period failed to identify significant downward trend.

The average current ratio is 1.91, below the standard norms (2:1). The s.d. was 0.54 and the CV percentage was 28.08. The straight line trend fitted to the CR indicated a decreasing trend which was statistically significant at 1 per cent level.

The average current assets to total assets were 0.58. The standard deviation was 0.05 and the coefficient of variation percentage was 8.04. The straight line trend fitted to the CATA during the study period failed to identify significant upward trend.

The average current liabilities to total assets were 0.43. The standard deviation was 0.05 and the coefficient of variation percentage was 12.61. The straight line trend fitted on CLTA indicated an increasing trend, which was also statistically significant at 10 per cent probability level. It indicates that there was a significant upward trend in financing total assets from short term sources. An increase in the ratio of the current liability to total assets will lead to an increase in profitability as well as risk. Because a short term source of finance are less expensive then long term sources.

The average financial debt ratio was 0.51. The standard deviation was 0.06 and the coefficient of variation percentage was 11.02. The straight line trend fitted to the FDR indicated an increasing trend which was statistically significant at 5 per cent level.

The average Natural logarithm of sale was 8.64. The standard deviation was 0.51 and the coefficient of variation percentage was 5.88. The straight line trend fitted to the LOS indicated an increasing trend which was statistically significant at 1 per cent level. It indicated that there was a significant upward trend in gross sales.

Table 2: Descriptive statistics of variables of selected loss-making FMCG companies

Year	Profitability	Efficiency					Liquidity	Investing	Financing	Leverage	Size
	Return on Assets (ROA)	Receivable collection period (RCP)	Inventory holding period (IHP)	Accounts payable period (APP)	Cash Conversion Cycle (CCC)	Current Assets Turnover (CATURN)	Current Ratio	Current Assets to Total Assets (CATA)	Current Liabilities to Total Assets (CLTA)	Financial Debt Ratio (FDR)	Natural Logarithm of sale (LOS)
2000	5.54	70	54	83	41	3	4.39	0.47	0.14	0.64	4.62
2001	-0.90	118	76	72	121	2	4.82	0.49	0.17	0.72	4.62
2002	5.74	277	126	295	108	3	3.71	0.44	0.18	0.76	4.61
2003	3.07	877	262	295	844	3	3.34	0.46	0.19	0.80	4.70
2004	0.50	581	124	272	432	3	4.63	0.47	0.17	0.87	4.81
2005	4.71	239	64	151	153	3	3.39	0.43	0.18	0.84	4.83
2006	10.21	92	72	218	-54	2	4.48	0.48	0.19	0.71	4.93
2007	7.45	58	69	147	-20	2	3.70	0.51	0.19	0.68	5.07
2008	5.28	59	76	111	24	2	4.40	0.52	0.16	0.65	5.29
2009	-3.15	55	105	108	52	3	4.24	0.47	0.14	0.66	5.16
2010	-1.43	52	126	135	44	3	3.94	0.50	0.17	0.71	5.16
2011	-2.02	62	93	118	38	3	1.88	0.43	0.37	0.74	5.35
2012	0.76	96	94	140	51	2	1.94	0.44	0.38	0.78	5.46
2013	0.54	130	139	136	133	2	1.52	0.39	0.45	0.79	5.28
2014	0.83	90	219	373	-64	2	1.42	0.39	0.48	0.84	5.06
Maximum	10.21	877	262	373	844	3	4.82	0.52	0.48	0.87	5.46
Minimum	-3.15	52	54	72	-64	2	1.42	0.39	0.14	0.64	4.61
Average	2.47	190	113	177	127	3	3.45	0.46	0.24	0.75	5.04
Standard Deviation	3.87	235.23	58.35	90.86	230.52	0.48	1.19	0.04	0.12	0.07	0.29
Coefficient of variation (CV)	156.37	123.49	51.49	51.35	181.72	19.01	34.38	8.85	49.91	9.73	5.72
Slope of the Trend line	-0.343	-21.214	2.825	-9.457	-19.50	-0.068	-0.199	-0.004	0.072	0.003	0.057
t-value	-1.557	-1.509	0.8	-2.074***	-1.47	-2.932**	-4.086*	-1.737	4.440*	0.679	6.961*

Source: Computed by the author

From the above table it is found that in case of loss making companies the average return on assets was 2.47. The standard deviation was 3.87 and the coefficient of variation percentage

was 156.37, an indication of instability in the profitability of the company. The straight line trend fitted to the ROA during the study period failed to identify significant downward trend.

The average receivable collection period was 190 days. The standard deviation was 235.23 and the coefficient of variation percentage was 123.49, an indication of instability in receivable collection period of the company. The straight line trend fitted to the RCP during the study period failed to identify significant downward trend.

The average Inventory holding period was 113 days. The standard deviation was 58.35 and the coefficient of variation percentage was 51.49, an indication of instability in Inventory holding period of the company. The straight line trend fitted to the IHP during the study period failed to identify significant upward trend.

The average accounts payable period was 177 days. The standard deviation was 91 and the coefficient of variation percentage was 51, an indication of instability in accounts payable period of the company. The straight line trend fitted to the APP was in a decreasing trend and statistically significant at 10 per cent probability level.

The average cash conversion cycle was 127 days. The standard deviation was 231 and the coefficient of variation percentage was 182, an indication of instability in cash conversion cycle of the company. The straight line trend fitted to the CCC during the study period failed to identify significant downward trend.

The average current assets turnover was 2.55. The standard deviation was 0.48 and the coefficient of variation percentage was 19.01. The straight line trend fitted to the CATURN was in a decreasing trend and statistically significant at 5 per cent probability level.

The average current ratio is 3.45, which is above the standard norms (2:1), indicating holding more current assets in relation to current liabilities. The s.d. was 1.19 and the CV percentage was 34.38. The straight line trend fitted to the CR indicated a decreasing trend which was statistically significant at 1 per cent level.

The average current assets to total assets were 0.46. The standard deviation was 0.04 and the coefficient of variation percentage was 8.85. The straight line trend fitted to the CATA during the study period failed to identify significant downward trend.

The average current liabilities to total assets were 0.24. The standard deviation was 0.12 and the coefficient of variation percentage was 49.91. The straight line trend fitted on CLTA indicated an increasing trend, which was also statistically significant at 1 per cent probability level.

The average financial debt ratio was 0.75. The standard deviation was 0.07 and the coefficient of variation percentage was 9.73. The straight line trend fitted to the FDR during

the study period failed to identify significant upward trend.

The average Natural logarithm of sale was 5.04. The standard deviation was 0.29 and the coefficient of variation percentage was 5.72. The straight line trend fitted to the LOS indicated an increasing trend which was statistically significant at 1 per cent level. It indicated that there was a significant upward trend in gross sales.

Regression Analysis:

In order to select the appropriate model, Pooled OLS regression model, fixed effects model (FEM) and Random effect model (REM) are carried out. It is found that both in case of profitmaking and lossmaking Indian FMCG companies of test statistics in Restricted F Test, Breusch-Pagan Lagrange Multiplier Test were statistically significant, whereas Hausman Test was not statistically significant these models. Hence the regression results of the REM were used for statistical inference and further analysis of the individual coefficients these models. A scrutiny of VIF showed that the estimated models did not suffer from severe multi-collinearity problem both in case of profitmaking and lossmaking Indian FMCG companies (Appendix 3&4). Robust standard error was used to remove the problem of heteroskedasticity in these models.

Table 3: Regression results of the effect of working capital management on return on assets of profitmaking Indian FMCG companies under random effect model:

Model	RCP (Model 1)		IHP (Model 2)		APP (Model 3)		CCC (Model 4)	
Variable	Coefficient	z-Stat	Coefficient	z-Stat	Coefficient	z-Stat	Coefficient	z-Stat
Intercept	11.43051	0.81	2.843471	0.11	6.630426	0.46	4.262214	0.28
RCP	-0.4662604	-2.55**	---	---	---	---	---	---
IHP	---	---	0.0193967	0.09	---	---	---	---
APP	---	---	---	---	-0.0195925	-1.22	---	---
CCC	---	---	---	---	---	---	0.0043526	0.26
CATURN	3.437709	1.64*	3.771977	1.24	3.564748	1.6	3.672855	1.6
CR	0.7431544	1	-0.7046685	-1.51	-0.7350294	-1.45	-0.6950744	-1.42
CATA	11.80798	0.96	11.7761	0.9	10.20431	1.05	11.0315	1.1
CLTA	17.45254	1.14	20.83081	1.34	23.61646	1.29	21.70408	1.2
FDR	-25.17213	-3.74*	-27.43156	-3.91*	-27.88731	-3.49*	-27.61641	-3.51*

LOS	6.368466	0.7	18.32859	1.3	15.56982	1.17	17.76987	1.29
Wald χ^2	15888.36*		17530.73*		3891.48*		14478.90*	
R2-Within	0.4535		0.3354		0.3419		0.3357	
R2-Between	0.3292		0.3326		0.3241		0.3306	
R2-Overall	0.3475		0.3141		0.3125		0.3132	
No. of Obs.	150		150		150		150	

Source: Computed by the author

Note: * 1% Significance level; ** 5% Significance level; *** 10% Significance level;

From the above Table, it is found that Wald χ^2 test was significant at 1% probability level for profitmaking Indian FMCG companies, therefore all models were well fitted. The coefficient of return on assets of the selected profitmaking FMCG companies India was negatively significant with the coefficient of Receivable collection period (RCP) which implies that Indian profit making FMCG companies can improve their profitability by reducing the receivable collection period. It indicates that a more restrictive credit policy is giving customers less time to make their payments improves performance. The return on assets was negatively associated with the coefficient of accounts payable period and positively associated with the coefficient of inventory holding period and cash conversion cycle. But they were not significant, which implies that return on assets do not differ significantly across the Indian profitmaking FMCG companies depending on their inventory holding period, accounts payable period and cash conversion cycle. ROA was significantly positively related to the coefficient of current assets turnover in model 1 which implies that as Indian profit making FMCG companies are able to increase the working capital turnover, it will enhance the profits of the firm as well. The variable, financial debt ratio was used as a proxy for leverage which was significantly negatively associated with ROA in all the models which implies decreasing the financial debt ratio will generate more profit for the Indian profit making FMCG companies. Current assets to total assets ratio, current liabilities to total assets ratio and natural logarithm of sales had insignificant positive impact on profitability and current ratio had insignificant negative impact on profitability, which were not proven in case of Indian profit making FMCG companies.

Table 4: Regression results of the effect of working capital management on return on assets of lossmaking Indian FMCG companies under random effect model:

Model	RCP (Model 1)		IHP (Model 2)		APP (Model 3)		CCC (Model 4)	
Variable	Coefficient	z-Stat	Coefficient	z-Stat	Coefficient	z-Stat	Coefficient	z-Stat
Intercept	-4.143112	-1.17	-3.678529	-1.16	-8.498569	-6.2*	-4.392539	-1.33
CATURN	0.6116749	1.33	0.4560728	0.93	0.416778	0.88	0.6397752	1.44
CR	-0.4440117	-1.65***	-0.4118617	-1.52	-0.3906187	-1.09	-0.3802994	-1.38
CATA	10.1946	1.8***	8.260133	1.47	6.866143	1.37	9.152331	1.69***
CLTA	-4.938846	-0.68	-3.082173	-0.43	-3.34733	-0.49	-4.525594	-0.62
FDR	-32.09413	-2.53**	-32.03644	-2.4**	-33.12046	-2.33**	-31.75696	-2.52**
LOS	0.6642193	0.73	0.9174076	1.17	1.979329	2.77*	0.7234191	0.83
RCP	-0.0021951	-5.58*	---	---	---	---	---	---
IHP	---	---	-0.0075145	-6.17*	---	---	---	---
APP	---	---	---	---	0.002558	1.26	---	---
CCC	---	---	---	---	---	---	-0.0019936	-7.71*
Wald χ^2	69363.82*		54587.73*		1239.89*		6730.64*	
R2-Within	0.3189		0.3181		0.2684		0.3234	
R2-Between	0.2092		0.1704		0.5021		0.2041	
R2-Overall	0.2968		0.2874		0.3005		0.2994	
No. of Obs.	150		150		150		150	

Source: Computed by the author

Note: * 1% Significance level; ** 5% Significance level; *** 10% Significance level;

From the above table, it is found that Wald χ^2 test was significant at 1% probability level for lossmaking Indian FMCG companies, therefore all models were well fitted. The coefficient of return on assets of the Indian loss making FMCG companies was negative significant with the coefficient of receivable collection period which implies that Indian loss making FMCG companies can improve their profitability by reducing the receivable collection period. It indicates that a more restrictive credit policy to customers will improve its performance. The coefficient of inventory holding period had negative and significant impact on ROA, which indicates inventory policy of the Indian loss making FMCG companies had affected adversely on its profitability. The coefficient of accounts payable period had positive insignificant impact on ROA, which implies that return on assets had not significant impact by the accounts payable period of the Indian lossmaking FMCG companies. The cash conversion cycle had negative and significant impact on ROA, which implies that decreasing the cash conversion cycle will generate more profits for the Indian loss making FMCG companies. ROA is insignificantly positively related to the coefficient of current assets turnover. The current ratio which is a traditional measure of liquidity has a significant negative relationship with ROA, which confirms that liquidity and profitability has inverse relationship. It indicates that high current ratio involving greater current asset than current liability will reduce the profitability of the firms. So, the Indian loss making FMCG companies need to maintain a trade-off between profitability and liquidity. To check the working capital investment policy as current assets to total assets ratio was used in the regression. The variable CATA showed a significant positive relationship with the profitability which showed that Indian loss making FMCG companies was following the conservative policy of working capital management. The current liabilities to total assets ratio which is a measure of financing policy has an insignificant negative relationship with ROA in case of Indian loss making FMCG companies. Financial debt ratio is used as a proxy for leverage which is significantly negatively associated with ROA which means increase in the financial leverage leads to decrease in the return on assets of the Indian loss making FMCG companies. The natural logarithm of sales was used as proxy for size of the Indian loss making FMCG companies shows a significant positive relationship with profitability which implies that which implies that larger market sizes seem to favor the profitability, therefore larger firms more profitable.

7. Conclusion:

The present study analyzed a comparative study of working capital management between

profitmaking and lossmaking FMCG companies in India taking top10 profit making companies and bottom 10 loss making companies from listed in NSE or BSE as sample and being analyzed for a period of 15 years from1999-2000 to 2013-14. ROA had been used as a proxy for firm's performance. From the study it is found that the average receivable collection period, inventory holding period, accounts payable period, cash conversion cycle, current ratio, and financial debt ratio of profitmaking companies were less than lossmaking Indian FMCG company average. The average return on assets, current assets turnover, current assets to total assets ratio, current liabilities to total assets ratio and size of profitmaking companies were more than lossmaking Indian FMCG company average. The regression result showed that in case of profitmaking companies, receivable collection period and financial debt ratio had significant and negative impact on profitability and current assets turnover had significant and positive impact on profitability. Other variables like inventory holding period, accounts payable period, cash conversion cycle, current ratio, current assets to total assets ratio, current liabilities to total assets ratio and size were found to have insignificant impact on firm's profitability. But in case of lossmaking companies, receivable collection period, inventory holding period, cash conversion cycle, current ratio, and financial debt ratio had significant and negative impact on profitability. Current assets to total assets ratio and size had significant and positive impact on profitability. Other variables like current assets turnover, accounts payable period and current liabilities to total assets ratio were found to have insignificant impact on firm's profitability.

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Appendix 1: List of Selected FMCG companies

Profitmaking companies	Lossmaking companies
Britania Industry Ltd	Agro Dutch Industries Ltd
Colgate – Palmolive (India) Ltd	Golden Tobacco Ltd
Dabur India Ltd	Gopala Polyplast Ltd
Emami Ltd	Indian Extractions Ltd
Hindustan Unilever Ltd	Modern Dairies Ltd
ITC Ltd	Mount Everest Mineral Water Ltd
Marico Ltd	Murli Industries Ltd
Nestle India Ltd	Phoenix International Ltd
Procter & Gamble Hygiene Health Care Ltd	Venlon Enterprises Ltd
Reckitt Benckiser (India) Ltd	Yashraj Containers Ltd.

Appendix 2: Measurement of Variables and Abbreviations

Abbreviations	Variables	Measurement
ROA	Return on total assets	EBIT/Total Assets
CATA	Current Assets to Total Assets	Current Assets / Total Assets
CLTA	Current Liabilities to Total Assets	Current Liabilities / Total Assets
FDR	Financial Debt Ratio	Total Debt/Total Assets
CR	Current Ratio	Current Assets / Current Liabilities
CATURN	Current Assets Turnover	Net Sales / Current Assets
RCP	Receivable Collection Period	(Average Accounts Receivable / Sales) * 365
IHP	Inventory Holding Period	(Average Inventory / Cost of Goods Sold) * 365
APP	Accounts Payable Period	(Accounts Payable / Purchase) * 365
CCC	Cash Conversion Cycle	RCP + IHP - APP

LOS	Market Size	Natural Logarithm of Sales
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Appendix: Result of Variance Inflation Factor (VIF) of Profitmaking Companies

Variable	RCP (Model 1)	IHP (Model 2)	APP (Model 3)	CCC (Model 4)
RCP	2.54	----	----	----
IHP	----	1.45	----	----
APP	----	----	1.82	----
CCC	----	----	----	1.98
CATURN	2.13	2.22	2.63	2.41
CR	2.78	1.83	1.92	2.09
CATA	2.69	2.86	2.73	2.70
CLTA	2.42	2.39	2.74	2.75
FDR	1.07	1.06	1.08	1.08
LOS	1.10	1.02	1.14	1.09

Table: Result of Variance Inflation Factor (VIF) of Lossmaking Companies

Variable	RCP (Model 1)	IHP (Model 2)	APP (Model 3)	CCC (Model 4)
RCP	1.29	----	----	----
IHP	----	1.29	----	----
APP	----	----	1.04	----
CCC	----	----	----	1.21
CATURN	1.24	1.32	1.25	1.24
CR	1.36	1.32	1.30	1.31
CATA	1.28	1.28	1.26	1.26
CLTA	1.18	1.17	1.17	1.17
FDR	1.13	1.14	1.12	1.14
LOS	1.66	1.44	1.39	1.59