

WORKING CAPITAL MANAGEMENT AND ITS IMPACT ON LIQUIDITY & PROFITABILITY: AN EMPIRICAL STUDY OF BRITANNIA INDUSTRIES

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Abstract:

Among all the problems of financial management, the problems of working capital management have probably been recognized as the most crucial one. It is because of the fact that working capital always helps a business concern to gain and strength. An efficient Working capital management is a vital component of success and survival for small and growing business.

The objectives of the study are to examine the working capital performance and its impact on liquidity and profitability of Britannia Industries during the period 2000 to 2013. Different financial ratios and statistical techniques are also applied for measuring the working capital efficiency and to know the relationship between liquidity and profitability of the selected firm during the study period.

Quick ratio, Inventory turnover ratio, Debtors turnover ratio, Gross profit ratio, and Working capital turnover ratios showed satisfactory performance and Current ratio, Absolute liquid ratio, Operating profit ratio of the company were not found to be satisfactory. The correlation coefficient between liquidity and profitability of the selected company is observed to be 0.2516.

Key words: *Liquidity, Profitability, Working Capital Management, Growing Business.*

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Introduction:

Working capital means the amount of capital which is required for day to day normal operation of an organization. It is used for running the main operating activities of the concern. For maintaining continuity in main operating activities, a firm has to invest a part of its capital in current assets. It has also to use another part of capital for paying of its current liabilities. It helps by creating income of the firm in an accounting period by means of a recurring rotation of the current assets and current liabilities. The working capital management plays an important role, for success or failure of firm in business because of its effect on firm's profitability as well as on liquidity. Working capital management is about the management of current assets and current liabilities in such a way that a satisfaction level of working capital which maximizes the profits of the firm is maintained.

The basic theme of working capital management is to provide adequate support for smooth and efficient functioning of normal day to day business operation by striking a trade among the three proportions of working capital. They are liquidity, profitability and risk. In the present environment of cut throat competition business does not have any other alternative, than cutting the cost of its operations in order to be competitive as well as financial strong. It is in this connection that effective management of working capital plays a vital role.

Academics are sharply divided into two schools of thought, according to one school of thought, "Working capital is not a factor of improving profitability and there may be a negative relationship between them". Whereas the other schools of thought argue that "Investment in working capital plays a vital role to improve corporate profitability and unless there is a minimum level of working capital output and sales cannot be maintained". They argue that inadequacy of working capital keeps fixed assets inoperative.

In fact the relationship between working capital and profitability is still a debatable issue, further more only a few studies on FMCG industry in connection with examining, the relationship between working capital, liquidity and profitability have been , carried out in India in the recent past. Apparently a large number of considerations play a vital role in the development of arguments and counter arguments in this regard. Against the backdrops of this academic debate an attempt has been made to evaluate the interrelationship between working capital management, liquidity and profitability of Britannia Industries during the period 2000 to 2013.

Company Profile:

Britannia Industries Ltd. ventures into the food-products manufacturing industry of India manufacturing and sale of biscuits, breads, cakes dairy products and markets them in brands such as Britannia and Tiger. Established in 1892, the company has its registered office in Karnataka.

Literature Review:

Peel, M.J and Wilson, N. (1996)⁶ in their article entitled “working capital management and financial management practice in the small firm sector” published in International Small Business Journal 14 (2), PP (52-68) was found that an efficient Working capital management is a vital component of success and survival for small and growing business.

They have also stressed the efficient management of working capital and more recently good credit management practice as being pivotal to the health and performance of the small firm sector.

The article did not mention the liquidity and profitability in large firms. The article failed to analyze how the profit could be maximized.

Peel, M.J.Wilson,N and Howorth, C.A. (2000)⁷ in their article entitled “ Late payment and credit management in the small firm sector: Some empirical evidence,” published in International small journal 18(2), page 52-68, suggested that small firm tend to have a relatively high proportion of current asset, less liquidity. They also opine that small firm exhibit volatile cash flows. They found that small firms are highly reliance on short term credit.

The article does not cover the large scale industry and had not highlighted specifically in FMCG companies.

Deloof , M (2003)² in his article on “ Does working capital management affects profitability of Belgian firms?” published in ‘Journal of business Finance and Accounting’ vol-30, No 3& 4 PP(573-587) discussed that most firms had a large amount of cash invested in working capital. Using correlation and regression test he found a significant relationship between gross operating income and the no. of days account receivables, inventories and accounts payable of Belgians

firms. He also suggested that managers could create value for their shareholders by reducing the no. of days accounts receivables and inventories to a reasonable minimum.

He also suggested that the negative relationship between accounts payable and profitability is consistent within the view that less profitable firm wait longer to their bills

Howorth C and Westhead, PP (2003)⁴ in their article on “The focus of working capital management in U.K small firms” published in Management accounting Research, Volume 14 No-2, PP- (94-111) was found that small companies stressed on working capital management to improve marginal returns. But the article had not highlighted specifically on working capital management in FMCG Companies. Further it had not focused on how the managerial returns could be maximized.

Eljelly, A.(2004)³ in his article on “Liquidity and Profitability trade off: An empirical investigation in an emerging market,” published in International Journal of Commerce and Management, volume 14, no- 2 PP (48-61) has elucidated that efficient liquidity management involves planning and controlling current assets and current liabilities in such a manner that eliminates the risk of inability to meet short term obligation and avoid excessive investment in these assets.

He has measured the liquidity and profitability by current ratio and cash conversion cycle (cash gap) on a sample of joint stock companies in Saudi Arabia and it was examined by using the correlation and Regression analysis.

However he did not consider the other ratios of measuring liquidity and profitability of the firms.

Padaachi, Kesseven (2006)⁸ in his article on trend in working capital management and its impact on firm’s performance: an analysis of Mauritian small manufacturing firms, published on International Review of Business Research papers, Vol.2, no 2, PP 45-58 was found that the paper and printing industry has been able to achieve high scores on the various component s of working capital. He also found that there is a positive impact of working capital management on its profitability.

However the study was constrained by the sample size and the nature of the data which have well affected the result. The study did not also cover the large scale industry.

.Research Gap:

Although several studies have been studied in the area of working capital management, a few studies have been carried out in the FMCG Industry. More over no comprehensive indices were formed to examine the relationship between liquidity and profitability. Hence, the present study is an attempt to contribute to the existing literature.

Objectives of the Study:

The main objective of the study is to examine the working capital management of the selected company. To attain the main objective, the following objectives are sought to be achieved:

- i) To examine the working capital performance of the selected company.
- ii) To study the liquidity position of the selected company.
- iii) To examine the relationship between liquidity and profitability of the selected company.

Hypothesis:

- i) Working capital performance of the selected company is satisfactory.
- ii) There is a significant positive relationship between liquidity and profitability

Methodology:

To carry out the present study the data has been collected from the published annual reports of the company for a period of fourteen years from 2000 to 2013. Data have been suitably arranged, classified and tabulated as per requirement for the study. To analyze the working capital performance of the selected company, the technique of ratio analysis has been used. To analyze the relationship between liquidity and profitability, Spearman's Rank Correlation has been used. To test the significance of the relationship between liquidity and profitability, found out by way of correlation coefficient, t test has been applied.

Data Source:

The data required for the study has been collected from the published annual reports of the selected company.

Study Period:

I have chosen the study period ranging from 2000 to 2013.

Tools and Techniques of Data Analysis:

The data collected from the published annual reports of the selected company for the fourteen years period have been suitably arranged, classified and tabulated as per requirement for the study.

Working Capital Performance of the Selected Sample Company:

To analyze the working capital performance of the selected company, the technique of ratio analysis has been used. The ratios which are taken into consideration are as follows:

Table 1 Different Ratio which are Taken into Consideration to Analyze the Working Capital Performance of the Sample Company

Name of the ratios	Measures
Current ratio	Current asset/current liability
Quick ratio	(current asset- stock)/(current liability- bank over draft)
Absolute liquid ratio	(cash and bank balance+ marketable securities)/(current liabilities – bank over draft)
Inventory turnover ratio(in times)	(sale – gross profit)/ closing stock
Inventory turnover (in days)	365/inventory turnover(in times)
Debtors turnover ratio(in time)	Net sales/ closing debtors
Working capital turnover ratio	Net sales / working capital
Debtors turnover ratio (in days)	365/ debtors turn over in times

Analysis of the Liquidity Position by Motaals comprehensive Test:

In this test the following ratios are taken into consideration. Each of the ratios are expressed as percentage

- I) Inventory / current asset
- II) Debtors / current assets
- III) Cash & bank / current assets.

For i) the lower the ratio the more favorable is the position and ranking has been done in that order. For ii), iii), & iv) the higher the ratio, the more favorable is the position and thus

ranking has been done in that order. Ultimate ranking has been done on the principle that lower the points scored the more favorable are the position and vice-versa.

Relationship between Liquidity and Profitability:

To analyze the relationship between liquidity and profitability, spearman's Rank correlation has been used and it is computed as below.

$$R = 1 - \frac{6\sum D^2}{N(N^2 - 1)}$$

Where, R = Rank Correlation Coefficient.

D= Difference of rank

N = No. of observations.

To test the significance of the relationship between liquidity and profitability, found out by way of correlation coefficient, t test has been applied.

The t statistic is given below

$$t = \frac{R\sqrt{n-2}}{\sqrt{1-R^2}}$$

Where R = Correlation coefficient, n= No. of observations

In addition to the above simple statistical measured like mean S.D, coefficient of variation have been used in this study

Analysis of Working Capital Performance of Britannia Industries :

Table 1 shows the different ratios for measuring working capital performance. The current ratios of the company are below the standard norms being 2:1. The ratios are ranging from 0.65 in 2001 to 1.27 in 2009 with a mean 0.917 and standard deviation 0.207.

The quick ratios of company are not satisfactory under the study period. The ratios are lying between 0.36 in 2011 and 0.91 in 2003 which are also below the standard norms during the study period. The mean and standard deviation of the quick ratios during the study period are 0.595 and 0.163.

It is observed from the study that the absolute liquid ratio of the firm are ranging from 0.027 in 2012 to .0333 in 2003 (standard norms being 0.5:1) with mean 0.125 and standard deviation is

0.091 during the period of study. It is observed from the study that the firm did not maintain the standard norms for the absolute liquid ratio during the study period.

Table 1

Distribution of Different Ratios of Working Capital in Britannia Industries, during 2000 to 2013 :

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	mean	S,d
CR	.67	.65	.80	.79	.76	.84	1.07	1.17	1.22	1.27	1.08	1.04	0.70	0.79	.917	.207
QR	.71	.72	.88	.91	.44	.41	.47	.52	.68	.65	.50	.50	.36	.58	.595	.163
ALR	.220	.168	.278	.333	.030	.051	.111	.151	.118	.093	0.046	.046	.027	.076	.125	.091
ITR(time)	16.26	15.55	19.63	15.83	11.91	11.97	9.34	10.31	9.98	14.54	15.08	16.68	13.15	17.19	14.10	2.95
ITR(DAY)	22.44	23.47	18.59	23.05	30.64	30.49	39.07	35.40	36.57	25.01	24.20	21.88	27.75	21.23	25.88	-
DTR(TIME)	10.85	10	7.38	7.48	6.12	7.11	6.784	4.10	5.28	5.62	4.77	4.18	4.02	4.20	5.69	-
DTR(DAY)	33.63	36.53	49.39	48.75	59.64	51.30	53.85	88.94	69.07	64.88	76.42	87.18	90.75	86.84	64.08	18.86
WCT(DAY)	220.8	50.05	23.61	17.35	33.55	-37.5	55.46	36.91	12.49	26.80	80.89	188.5	-14.6	-	56.07	123.7
CAT(TIME)	4.96	5.56	5.52	4.50	5.99	5.70	4.90	5.74	4.48	5.62	6.16	6.50	6.32	6.81	5.63	0.715

Note: CR = Current ratio, QR = Quick ratio, ALR = Absolute liquid ratio, IR = Inventory turnover ratio, DT = Debtors turnover Ratio, WCT = Working capital turnover, CAT= Current asset turnover

Source: Annual Reports of the Company

Inventory turnover ratios of the company are observed to be much satisfactory during the study period. The ratios are lies between 9.98 times in 2008 and 19.63 times in 2002 with mean 14.101 and standard deviation 2.951. The ratios are fluctuating during the study period.

It is observed that the company is maintaining a satisfactory level of inventory which helps to avoid the extra cost for maintaining both the high and low level of inventory under the study period.

The debtor's turnover ratios of the company are lying between 33.63 days and 90.75days with mean 64.08 and standard deviation 18.86 during the study period. It is observed from the study that the company offering a two months credit facilities to its customers.

Net working capital turnover period of the company is 56.072 on an average with a standard deviation 123.762 during the study period. It is to say that the time taken from cash invested in the business to cash recovery from the business is 56 days on an average. If we analyze in depth, it is observed that working capital cycle is a good one.

The gross working capital (sum of current assets) cycle period of the company is 5.63 on average with standard deviation 0.715.

From **Table 2**, it is shown the percentage of stock out of total current assets hold by the company during the study period. Higher level of inventory holding indicates the lower level of liquidity position. Considering this, the liquidity rank has been done. In case of debtors to current assets, the rank has been scored by keeping in mind that higher amount of debtors out of its total current assets is the indicator of better liquidity position and vice-versa. The rank of debtors to current assets is 1 in 2000 as it is the highest and so on.

Table 2

Liquidity Ranking Analysis of Britannia Industries by Motaal's Test :

	Inventory to CA (%)	Debtors to c CA (%)	Cash & bank to CA (%)	Loans & advances to CA (%)	Liquidity rank				Total rank	Ultimate rank
					1	2	3	4		
	1	2	3	4						
2000	0.307	0.166	0.215	0.312	3	1	2	11	17	3
2001	0.359	0.141	0.149	0.351	4	3	4	9	20	5
2002	0.283	0.098	0.213	0.406	1	5	3	3	12	1
2003	0.287	0.105	0.246	0.362	2	4	1	8	15	2
2004	0.509	0.083	0.029	0.378	11	9	14	6.5	39.5	11
2005	0.483	0.159	0.058	0.300	8	2	10	13	33	8
2006	0.529	0.059	0.101	0.309	13	14	6	12	45	14
2007	0.561	0.074	0.127	0.236	14	11	5	14	44	13
2008	0.522	0.080	0.075	0.321	12	10	8	10	40	12
2009	0.458	0.089	0.073	0.378	6	7	9	6.5	28.5	6
2010	0.485	0.072	0.043	0.400	9	12	12	4	37	9
2011	0.480	0.088	0.044	0.387	7	8	11	5	31	7

2012	0.487	0.067	0.039	0.407	10	13	13	2	38	10
2013	0.402	0.093	0.078	0.425	5	6	7	1	19	4

Note: CA = current assets

Source: Computed from Annual Reports of the Company

The same consideration has been applied in case of calculating rank of cash & bank to current assets and loans & advances to current assets. It is necessary to mention that fixed deposits have been included in cash & bank balance.

After getting individual rank all the ranks on particular year has been added to get the total rank and it is found that total rank in 2002, is the lowest and it got ultimate rank 1. It is indicating that the company under the study period recognizes the most sound liquidity position in the year 2002 followed by 2003, 2000, 2013, 2001, 2009, 2011, 2005, 2010, 2012, 2004, 2008 and 2007 places the 2nd, 3rd, 4th, 5th position respectively.

It is observed from the total rank that the trend of liquidity position is more or less steady and it is ranging from 12 to 45.

Table 3

Profitability analysis of Britannia Industries:

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	Mean	S.D
Op.prof it (%)	7.69	9.40	9.74	11.35	11.21	11.58	11.72	5.85	8.97	7.20	6.09	5.46	5.47	6.56	8.44	2.31
G.P ratio (%)	7.55	9.02	9.03	11.11	11.76	12.52	12.28	6.27	7.85	6.12	4.99	4.40	4.52	5.55	8.06	2.82
N.P ratio (%)	4.45	5.46	14.47	7.59	8.16	9.25	8.48	4.86	7.31	5.75	3.38	3.42	3.71	4.12	6.42	2.95
ROCE (%)	25.90	24.92	20.14	22.38	30.86	41.02	34.49	19.22	26.37	25.29	24.67	24.06	51.66	44.05	29.64	9.33

Note: S.D = standard deviation,

Source: Annual Reports of the Company

Table 3 shows the different profitability ratios with mean and standard deviation under the study period. The operating profit margin ratio of the company is observed to be not satisfactory during the study period. The ratios are lying between 5.46% in 2011 and 11.72% in 2006 with mean 8.44 and standard deviation 2.31. The ratios are fluctuating over the years.

The gross profit ratios of the company are also much lesser than that of standard under the study period. The ratios are lying between 4.40% in 2011 and 11.76 in 2004 with mean 8.06 and the standard deviation 2.82.

The net profit ratios of the company are not praiseworthy. The maximum net profit is 12.58% in 2005 and the minimum net profit ratio is 3.38% in 2010 during the study period with an average 6.42 standard deviation 2.95.

The return on capital employed of the company lies between 19.22% in 2007 and 51.66 in 2012 with mean 29.64 and standard deviation 9.33. the return on capital employed of the company is observed to be increasing trend and it is much satisfactory in 2012 and 2013.

Relationship between Liquidity and Profitability:

To know the relation between liquidity and profitability, only two ratios are taken. Current ratio is taken as the indicator of overall liquidity and return on capital employed is taken as the principal indicator of profitability. Spearman's Rank correlation coefficient has been calculated to know the relationship between the two variables whether exist or not.

To test the significance of the relationship between liquidity and profitability, work out by way of correlation coefficient, 't'-test has been applied. The t- statistic is as follows:

$$t = \frac{R\sqrt{n-2}}{\sqrt{1-R^2}}$$

Where R = Rank Correlation Coefficient

n = number of observations

The correlation coefficient between liquidity and profitability of the selected company is observed to be 0.2516 under the study period. The calculated value of t =0.90. At 5% level of significance the table value of t (2 tailed) = 2.16. Therefore, the null hypothesis is accepted and concludes that there is a positive relationship between liquidity and profitability under the study period.

Limitation of the Study:

The study has been conducted over a limited period of fourteen years only. It is mainly based on secondary data and thus it carries all the limitations pertaining to the data collected from secondary sources. The study is based on a single company only

Findings and Conclusions:

- i) Current ratios are below the standard norm. Therefore, it can be said that working capital performance in respect of current ratio is not satisfactory.
- ii) The performances of quick ratios are also not satisfactory under the study period.
- iii) Cash holding position of the company is not satisfactory (comparing with the standard norms) under the study period.
- iv) Inventory holding position is much better
- v) The company's credit policy is found to be better under the study period.
- vi) The company is in a position to recover its working capital 56.07 days on an average in a year under the study period which is a good sign for the company.
- vii) Company's liquidity position in the year 2013 is very good. The overall liquidity positions are stable under the study
- viii) The company is not maintaining a good return in terms of operation profit margin ratio during the last fourteen years of the study period.
- ix) The company is maintaining a good return in terms of Return On Capital Employed under the study period.
- x) Net profit margin of the company is not satisfactory.
- xi) The liquidity position by Motaal's test of the selected company is ranked as 2002, 2003, 2000, 2013, 2001, 2009, 2011, 2005, 2010, 2012, 2004, and 2008 respectively.
- xii) A positive relationship between liquidity and profitability is observed for the selected company during the study period.

References:

1. Banerjee, B. (1999). Financial Policy & Management Accounting, 6th Edition, the World Press Private Ltd, Kolkata.

2. Deloof, M (2003). "Does Working Capital Management affect Profitability of Belgian firms?" Journal of Business Finance and Accounting, Vol 30, No. 3 & 4 PP 573-587.
3. Eljelly, A. (2004). "Liquidity and Profitability trade off: An empirical investigation in an emerging market," International Journal of Commerce and Management, volume 14, no- 2 PP (48-61).
4. Howorth C and Westhead, PP(2003) ." The focus of working capital management in U.K small firms" .Management accounting Research , Volume 14 No-2, PP- (94-111)
5. Khan, M.Y and Jain, P.K. (2004). "Financial Management", 2nd Edition, Tata McGraw Hill.
6. Peel, M.J and Wilson, N. (1996) "working capital management and financial management practice in the small firm sector" published in International Small Business Journal 14 (2), PP (52-68)
7. Peel, M.J.Wilson,N and Howorth, C.A. (2000). " Late payment and credit management in the small firm sector: Some empirical evidence," International small journal 18(2), page 52-68,
8. Padaachi, Kesseven (2006). "Trend in working capital management and its impact on firm's performance: an analysis of Mauritian small manufacturing firms," International Review of Business Research papers, Vol.2, no 2, PP 45-58
9. Smith K.V. (1973). "State of the art of Working Capital Management", Autumn, PP 50-55
10. Website of Britannia Industries.