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Impact of Working Capital Management on Profitability in Indian Petroleum Industry with special reference to Indian Oil Corporation

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Abstract: ***The present paper examines the correlation between working capital and net profit of Indian Oil Corporation (IOC) during the period 2009-10 to 2013-14. Descriptive statistics has been used to calculate the mean and standard deviation of the data and Pearson correlation co-efficient has been used to analyse the correlation at 95% level of significance using IBM SPSS 22. The findings reveal significant highly negative correlation between working capital and net profit. Finally, there exists significant negative relationship between liquidity and profitability, which indicates that IOC has maintained highly excessive level of liquidity during the period under study.***

Keywords: Working capital, Profitability, Indian Oil Corporation.

I. INTRODUCTION

Working capital is meant to support the day to day normal operations of an enterprise. The maintenance of working capital efficiently and effectively at the economic meltdown is very difficult. At this stage cash has become a very expensive resource to borrow. Therefore each and every company should not forget the fact that most of the cash are tied in the working capital (WC) components. So it is very important to bring in a new strategy to manage the cash flow effectively without affecting key suppliers relationship. Hence working capital management is given higher priority by the managers.

II. OBJECTIVE OF THE RESEARCH

The main objective of the research is to identify the relation of WC on profitability of Indian Petroleum Industry with special reference to IOC.

III. HYPOTHESIS

H0: There is no relationship between the working capital and the profitability.
H1: There is relationship between the working capital and the profitability

IV. USEFULNESS OF THE RESEARCH

Our study will be useful in many ways. Firstly this will add to the existing knowledge in terms of WCM and profitability. Further if we can identify, how the components of WC are affecting the profitability, the management can strike a balance between those components to maximize the share holders wealth. Finally the current economic situation is not in a healthy position. The findings of our research can be used not only by manufacturing organizations but also by other organizations to improve their financial performance and financial crisis of the country.

V. LITERATURE REVIEW

According to Rafuse (1996) majority of the business failures are due to poor management of WC components and the firm's success heavily depends on how frequent they are able to generate more cash. Guthman & Dougall (1948) defined WC as current assets minus current liabilities. The current refers to a time period of one year or less than one year (Emery & Finnerty, 1997).

Shin & Soenen (1998) emphasized that Working Capital Management (WCM) is a key part of corporate strategy and the way it is managed can have a significant impact on the liquidity and the profitability of the company. The profitability of the firms can be increased through efficient management of WC (Ganeshan, 2007). Raheman & Nasr (2007) suggested that managers can increase the shareholders value by reducing the receivable days and inventories days to a minimum level. Efficient WCM is all about managing the WC components effectively to meet the short term obligation (Eljelly, 2004).

Vishnani & Shah (2007) emphasized that each and every company has to be careful when investing huge amount of funds in WC, this is because it can reduce the profitability of the company significantly. On the other hand Ching, Novazzi, & Gerab (2011) identified that WCM is equally important for both the WC intensive and fixed capital intensive companies. From the above studies it's very clear WC is playing an important role in enhancing the shareholders wealth and it is given higher priority by the finance managers.

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VI. RESEARCH METHODOLOGY

The following research methodology has been framed to analyse the relationship of WC and profitability.

❖ Statistical Methods

Descriptive

For clear understanding of the data collected and the pattern over the years descriptive statistics like minimum, maximum, mean and standard deviation are used. In order to analyse the collected data for our variables, the IBM SPSS Statistics 22 software is used.

Quantitative analysis

Quantitative analysis means the statistical analysis used to study the pattern of the collected data. Here we have used Pearson correlation analysis.

❖ Variables

Table-1
Dependent Variable & Independent Variable

Dependent Variable	
Net profit	Net profit after tax
Independent Variable	
Current assets	Cash on hand, Bank balance, Debtors, short-term, investments, inventory, accounts receivable, prepaid expense, advances to be received
Current liabilities	Account payable, accrued exp., unclaimed dividend, security deposits, bank over draft, provision for taxation, short-term loans, cash credit, and bank loan.

❖ Hypothesis testing

Test of association

To evaluate the relationship between the two variables i.e. the working capital and profitability Correlation analysis is used. It measures the strength of the relationship between the profitability and the WC. The coefficient lies between the -1 to +1. If the coefficient is 0, means there is no association between the two variables. The positive sign indicates increase in one variable will increase the other variable. On the other hand a negative sign means increases in one variable will reduce the other variable.

❖ Data sources

Secondary data from the published annual reports of the company and from the website has been used in the research study.

❖ Sample Selection

Indian Oil Corporation as a sample has been selected working under the refinery sector of Indian petroleum industry. IOC is one of the major contributors as private company in Indian Petroleum Industry.

❖ Transforming data in to information

Microsoft Excel 2007 and IBM SPSS 22 have been used to analyse the data.

VII. DATA ANALYSIS AND DISCUSSION

Table-2
Table showing Net Working Capital of five years of IOC

Particulars	**Mar '14**	**Mar '13**	**Mar '12**	**Mar '11**	**Mar '10**
Inventories	64,697.37	59,314.39	56,829.20	49,284.52	36,404.08
Sundry Debtors	11,023.10	11,254.78	15,502.87	8,869.65	5,799.28
Cash and Bank Balance	2,608.53	503.29	307.01	643.92	916.56
Loans and Advances	53,662.57	55,345.74	44,988.11	25,454.49	17,453.01
Fixed Deposits	0.00	0.00	0.00	650.50	398.55
Total CA, Loans & Advances (A)	131,991.57	126,418.20	117,627.19	84,903.08	60,971.48
Current Liabilities	79,044.20	66,529.83	66,510.58	60,441.18	40,818.96
Provisions	26,778.38	18,015.93	15,148.54	6,763.46	10,271.56
Total CL & Provisions (B)	105,822.58	84,545.76	81,659.12	67,204.64	51,090.52
Net Working Capital (C=A-B)	26,168.99	41,872.44	35,968.07	17,698.44	9,880.96

Source: Annual reports form IOC website. Calculated by own.

Here total current assets, loans and advances and total current liabilities with provisions has been found for the respective 5 years. With the help of these data the Net working capital has been calculated, which is the excess of current assets over current liabilities.

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Table-3
Net working capital and net profit of five years

IOC	Mar '14	Mar '13	Mar '12	Mar '11	Mar '10
NWC	26168.99	41872.44	35968.07	17698.44	9880.96
NP	7,019.09	5,005.17	3,954.62	7,445.48	10,220.55

Source: Annual reports form IOC website. Calculated by own.

NWC and NP presented of the five years research period, which is in fluctuating manner.

Table-4
Table showing Descriptive Statistics

	Mean	Std. Deviation	N
NWC	26317.7800	13034.18349	5
NP	6728.9820	2421.63124	5

Source: IBM SPSS 22. Calculated by own.

This table shows the mean and standard deviation of NWC and NP.

Table-5
Table showing Correlation between NWC and NP

		NWC	NP
NWC	Pearson Correlation	1	-.928*
	Sig. (2-tailed)		.023
	N	5	5
NP	Pearson Correlation	-.928*	1
	Sig. (2-tailed)	.023	
	N	5	5
*Correlation is significant at the 0.05 level (2-tailed).			

Source: IBM SPSS 22. Calculated by own.

VIII. RESULT

The correlation co-efficient between WC and NP of the IOC is observed to be highly negatively correlated i.e. -0.928 which is nearer to -1. The significance value p i.e. 0.023 which is less than 0.05 (95% level of significant).

Thus, we fail to accept the null hypothesis. Which conclude that there is relation between working capital and profitability of the IOC.

Thus, it indicates that IOC has optimal level of liquidity, thereby creating a negative impact on profitability during the study period.

IX. DELIMITATIONS

1. The study is limited to five years 2009-10 to 2013-14 only.
2. The study is only of selected private company engaged in refining in India. Hence, findings cannot be generalized to whole industry.
3. This study is based on secondary data. Therefore, the quality of study depends purely upon the accuracy, reliability and quality of the secondary data source.
4. The performance of WCM is also affected by other factors like inflation, market change etc. have not been covered by this study.
5. There are different methods to measure efficiency, effectiveness and profitability.
6. Different tools used to analyse the data, have own limitation that applies to this study also.
7. The relationship between the return on equity, return on investment and return on sales and WC components' are not being evaluated in our research.

X. SUMMARY OF FINDING

8. The cash in hand and bank in the year March '14 (2,608.53 amt. in cr.) is almost 4.18 times higher than that of the year March '13 (503.29 amt. in cr.). The too much excess holding of cash increase the working capital that leads to minimizing the profitability of the firm.
9. The holding of total current assets and total current liabilities is in increasing trend throughout the five year consistently. Total Current assets and current liabilities have increased 216.48% and 207.12% from March '10 to March '14. This shows that the percentage increase in current asset is higher than that of current liabilities. (table 2)
10. The mean and standard deviation of WC and NP is 26,317.78 and 6,728.98 Cr respectively.
11. Pearson correlation coefficient is -0.928 which is highly negatively correlated as it is very near to -1. The increase in WC leads to decreasing in profitability of the firm.

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12. The sig. (p) value is 0.023 which is less that 0.05 states that we are fail to accept the null hypothesis (H0). This clearly indicated that there is relation between working capital and profitability.
13. Thus, it indicates that IOC has optimal level of liquidity, thereby creating a negative impact on profitability during the study period.

XI. CONCLUSION

Adequacy of working capital is an essential part for achieving organisational objectives. The importance of adequate working capital in the concern can never be over emphasised. Just like little food leads to starvation and excess food in human body is very dangerous. The excess working capital leads to inflation and inadequate working capital leads to deflation. Excessive working capital means idle funds in the business concern which adds cost to the capital but earns no contribution to the profit of the concern. A business concern may enjoy high liquidity and at the same time, suffer from low profitability.

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