Impact of Working Capital Management on Cash Holding

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Abstract

Management of working capital is regarded as one of the most essential part of business management. This paper studies the impact of working capital management on the profitability of Telecom industry. The study period of papers is of 5 years i.e. 2010-2015. Both dependent and independent variables are used in this study. Variables used in this study include Return on Assets (ROA) to measure the profitability, Average Collection Period (ACP), Inventory Conversion Period (ICP), Average Payment Period (ACP) and Cash Conversion Cycle (CCC) are used as proxy for working capital management. Debt Ratio, Current Ratio, Sales Growth and Firm Size are used as control variable. The data analysis is carried out for eight telecom industry listed in National Stock Exchange of India. This study is based on secondary data and data are taken for a period of five years i.e. 2010- 2015in order to calculate all these variables. The research methodology used in this study was descriptive statistics, correlation analysis and ordinary square least regression analysis in order to know the impact of these variables on profitability. The result of correlation analysis shows the ROA has negative relationship with ICP, ACP, CCC and Current ratio while ROA has positive relationship with APP, Debt ratio and Firm size. Telecom sector is one of the major sectors of India. So, the aim of this paper is to provide some useful recommendation for the people responsible for the management of this sector. This study also establishes the basis for future research in this area of business.
Key Words: Working Capital Management, Profitability, Telecom Sector, India

1.0 INTRODUCTION

Working Capital Management is an important component of Corporate Financial Management. It is the relationship between current assets and current liabilities. Management of working capital is important to carry the routine activities of a firm. The objective behind working capital management is to ensure continuity in the operations of a firm and that it has sufficient funds to satisfy both maturing short-term debt and upcoming operational expenses. It mainly involves management of inventories, accounts receivables, accounts payables and cash. The basic theme of working capital management is to provide adequate support for smooth and efficient functioning of day to day business operations by striking a trade between the three proportions of working capital. They are liquidity, profitability and risk.

The Indian Telecom Industry is one of the fastest growing industries in the world. Government polices and regularity system implemented by Telecom Regulatory Authority of India has given a conductive environment to services suppliers. This has made the sector more competitive, while improving the openness of Telecommunication Services at moderate movement to customer. In the last two decades, the Indian Telecom Sector and mobile telephony specifically has gotten the creative ability of India by progressive the way they convey,

offer data and through its amazing development helped millions stay connected. Telecom industry is globally recognized as one of the driving forces for overall economic development in a nation. They are additionally one of the prime services required for fast growth and modernization of various sectors of the economy. The Government of India recognizes this fact and thus, has taken a several major initiatives to give a business friendly environment for companies in the sector.

Working capital management and profitability have some relationship with each other. Many research works is available on this relationship in different sectors of India. But selected sector i.e. Telecom sector has not been under much consideration regarding the working capital management. So, much literature is not available in this sector in Indian context. Working capital management is very important part of business activities of any firms. Thus, working capital management is very important for telecom sector as well. The main aim of this paper is to find out "Does the working capital management have any impact on the profitability of Telecom sector of India?" and also the purpose of this research is to contribute important aspect towards a financial management known as working capital management with reference to Indian Telecom Industry.

The remaining study is based on the analysis of previous literature review which is relevant to the topic which provides the information about theoretical background for the study, research methodology which provides the information about all variables included in the study and sample size.

The remaining section shows the empirical analysis and regression results of the study and provides the conclusion and suggestion about the topic.

2.0 LITERATURE REVIEW

J P Singh and Shishir Pandey (2008) have studied on topic impact of working capital management on profitability of Hindalco Industries Limited. This study is based on secondary data and data are collected from annual reports of company for 17 years period i.e. 1990 -2007. The research methodology used in this paper is ratio analysis, percentage method, correlation coefficients and multiple regression analysis. Regression results of the study show that current ratio, liquid ratio, receivables turnover ratio and working capital to total assets ratio have statistically significant impact on the profitability of Hindalco Industries Limited.

Shishir Pandey and Vikas Kumar Jaiswal (2011) analyzed the effect of working capital management on profitability of manufacturing firms. The study period for paper was five years i.e. 2005 – 2010. The research methodology apply by author is correlation and regression analysis (two different method fixed effects model and ordinary least squares model). The result of correlation analysis show there is negative relationship between profitability and debtor's days, inventory days, and creditor's days. The results of regression analysis shows cash velocity, size of the firm, and net working capital leverage are significant both method.

Dr. Ashok Kumar Panigrahi, (2012) analyses the impact of working capital management on profitability of ACC Cement Company. The study is based on secondary data, data are collected from the websites money control as well company websites and study periods are for 10 years i.e. 1999-2000 to 2009-2010. The research methodology used in this paper is correlations coefficient, multiple correlation analysis and multiple regression analysis. In this paper few variables show a strong and positive correlation with the profit whereas some others do not have. The results show that there is moderate relationship between the efficiency of working capital and the profitability.

Abbasali Pouraghajan and Milad Emamgholipourarchi (2012) analysis on impact of working capital management on profitability and market evaluation: Evidence from Tehran stock exchange. The results shows that there is significant relationship between working capital management and profitability of the company and it also indicate there is no significant relationship between market value of company.

Arunkumar O.N. and T.Radharamanan (2012) examined the effect of working capital management on profitability of Indian manufacturing firms. The study period was of 2005-06 to 2009-10 i.e. for 5 years and methodology used on this study was correlation and regression analysis. The results of research shows that in correlation analysis profitability has negative relationship between profitability and debtor day, inventory day and creditor day. And a result of regression analysis shows that there is positive relationship between number days of inventory and number of days of account payables.

Kruti A. Patel (2015) studied on impact of working capital management on profitability of Indian Oil Corporation. The study was based on secondary data and study period was 2009-10 to 2013-14. Pearson correlation, descriptive statistic and INM SPSS were applied as research methodology. The results show that there is significant negative correlation between working capital management and net profit and it also indicates that there is negative relationship between liquidity and profitability.

Poonam Gautam Sharma and Preet Kaur (2015) examine the impact of working capital management on profitability of Bharti Airtel Telecom Company. The study period was 2007-08 to 2014-15 and statistical and econometric tools were used for study. The results reveal that there is significant negative relationship between liquidity and profitability of the company and it also reveals that quick ratio, inventory turnover ratio, debtors turnover ratio of company shows satisfactory performance and current ratio of company was found not satisfactory.

3.0 OBJECTIVES

➢ To study the back ground and characteristics of the Telecom industry in India
➢ To develop a frame work for measuring the relationship between working capital management (WCM) ratios and firm profitability in the Telecom Industry of India
➢ To analyse data related to working capital management and profitability of Telecom industry firms in India
➢ To statistically infer on the relationship between working capital management and profitability in the Indian telecom sector

4.0 METHODOLOGY

This study is based on secondary data. In this research we will see the different working capital management practices and its impact on profitability of 8 Indian Telecom Industry listed on the Indian stock Exchange for a period of five years from 2010– 2015. The data for this study is collected

using the non-survey method. This is due to the fact that the accounting information required for this study is easily obtainable from the published annual reports and accounts from the different websites. Accordingly, relevant balance sheet and profit and loss items, such as Return on Assets, Average Collection Period, Inventory Conversion Period, Average Collection Period, Cash Conversion Cycle, Debt Ratio, Current Ratio, and Firm Size of the sampled companies are the variable to be studied in this work or research. In order to measure the profitability calculation of variables is done. This is done by using different formulas which is tabulated below:

Table. No. 1Variable Formulas and Abbreviations:

Variables	Abbreviation	Measurement
Dependent Variable		
Return on Assets	ROA	Net income/ Total Assets
Independent Variable		
Average Collection Period	ACP	(Account Receivables/Net Sale)* 365
Inventory Conversion Period	ICP	(Inventory/ Cost of Sales)*365
Average Payment Period	APP	(Account Payables/Cost of Sales)*365
Cash Conversion Cycle	CCC	ACP+ICP-APP
Debt Ratio	DR	Total Liabilities/Total Assets
Current Ratio	CR	Current Assets/Current Liabilities
Control Variable		
Firm Size	Size	Natural Logarithm(Total Assets)
Sales Growth	Growth	(Sales $_t$ – Sales$_{t-1}$)/ Sales$_{t-1}$

Besides for framing conceptual framework, various books and published material in standard books and newspapers, Journals and websites has been made use of. For evaluation of profitability and working capital management of the selected companies the different statistical tools such as, Regression analysis, multiple regression analysis, Correlation analysis, T test, F test and analysis of variance (ANOVA) and Descriptive Analysis are used.

5.0 SCOPE OF THE STUDY
This study focuses on telecom industry of India only. The study covers eight selected telecom industries which are listed in National Stock Exchange of India. Their annual reports for five years covering 2010 to 2015 are used in the investigation of the impact of working capital management on profitability of Indian telecom sector. Among different telecom industry listed on NSE eight industries only are selected on the basis of data availability. Therefore this study is carried out in telecom industry of India.

6.0 HYPOTHESIS:
Hypothesis 1: There is no relation between the Current Ratio and Return on Assets
Hypothesis 2: There is no relation between Average Collection Period and Return on Assets
Hypothesis 3: There is no relation between Inventory Conversion Period and Return on Assets.
Hypothesis 4: There is no relation between Average Payment Period and Return on Assets
Hypothesis 5: There is no relation between Debt ratio and Return on Assets
Hypothesis 6: There is no relation between Cash Conversion Cycle and Return on Assets

RESULTS AND FINDING:
Descriptive Analysis:
Table below presents descriptive statistics for 8 Telecom firms of India for a period of five years from 2010 to 2015.

Table. 1 Descriptive Analysis

Variable	Mean	Median	SD	Min	Max
ROA	0.074	0.075	0.077	-0.107	0.258
ACP	142	115	118	11	452
ICP	106	88	92	0	501
APP	21	13	24	0	93
CCC	226	205	151	15	618
Debt Ratio	0.24	0.20	0.18	0	0.60
Current Ratio	1.23	1.26	1.03	0.098	4.03
Firm Size	3.06	2.60	1.11	1.86	4.33

As per the above table, mean value of firms return on assets is 7.44 percent of total assets with median value 7.95 percent and standard deviation value is 7.75 percent. It implies that estimation of productivity can fluctuate from intend to both sides by 7.44 percent. Its minimum value is -10.75 percent while maximum is 25.85 percent.

Average Collection Period (ACP) is use for a measurement of collection policy. ACP average

value is averaged to 142.08 days for the sampled firms. The interpretation for the average of the Average Collection Period is that, organizations in the sample wait 142.08 days on average to collect cash from credit sales. The minimum and the maximum value of ACP for the sampled firms are 11.05 and 452.47 days respectively

The Inventory conversion period is use as proxy for inventory policy. The average value of inventory conversion period is 105.69 days. This means, firms in the sample needs on average 105.69 days to sell inventory. As it is demonstrate in the above table, the standard deviation of inventory holding period is 92.27 days. To the sample firms the inventory holding time frame ranges between zero and 501.37 days as minimum and maximum values respectively.

The average payment period is use as proxy for payment policy. The average value of accounts payable period is 21.95 days. The   standard deviation of account payable period for the sample firms is 23.97 days. The period range is between zero days and 92.57 days respectively.

Additionally, Cash conversion cycle, is 226.48 days on average and the standard deviation is 150.99 days. The minimum value of 15.19 days demonstrates that a firm records a large inventory turnover/or cash collection from credit sales before making a single payments for credit purchases. It implies that the average collection period and/or the inventory holding time frame are short and/or the ACP of the firm is long. On other hand the time for cash conversion period is 618.15 days which is a very long period.

The above table additionally includes descriptive statistics of control variables that are used as a part of the study. To check the size of the firm and its relationship with profitability, normal logarithm of sales is used as a control variable. The mean value of log of sales is 3.06 while the standard deviation is 1.11. The maximum value of log of sales for an organization in a year is 4.99 and the base is 1.84.

8.0 CORRELATION ANALYSIS:

On the prior to regression result, it is important to check the correlation between various variables on which the analysis is assembled. Pearson's Correlation grid is used for information to see the relationship between variables, for example, those between working capital management and firm financial performance (profitability measure).

Table. 2. Correlation Analysis

	ROA	ACP	ICP	APP	CCC	Debt Ratio	Current Ratio	Firm Size
ROA	1.00							
ACP	-0.52	1.00						
ICP	-0.20	0.05	1.00					
APP	0.41	-0.45	0.42	1.00				
CCC	-0.59	0.83	0.51	0.26	1.00			
Debt Ratio	0.48	-0.39	-0.20	0.71	-0.30	1.00		
Current Ratio	-0.47	0.69	0.08	0.32	0.64	-0.25	1.00	
Firm Size	0.36	-0.67	0.00	0.32	-0.58	0.07	-0.78	1.00

Above table shows that ROA is negatively related with ACP, ICP, CCC and Current ratio. The negative relation between ROA and ACP is consistent with the perspective that the less the time taken by clients to pay their bills, the more money is accessible to renew the inventory thus leading to more sales which result to an increase in profitability. The negative relationship between ROA and ICP can lend credibility to the fact that organizations which keep low inventory levels experience higher level of profitability. The negative relation between ROA and CCC is consistent with the perspective that the time slack between the expenditure for the purchases of raw materials and the collection of sales of finished goods can be too long and that decreasing this time lag increases profitability. The negative relationship between ROA and Current ratio implies that profitability and liquidity are inversely related. Thus, it also indicates that an increase in the current assets, under the constraint of constant current liabilities, would lead to a reduction in firms' profit.

Above table demonstrates that ROA is positively related with APP, Debt Ratio and Firm Size. The positive connection amongst ROA and APP can be corroborated by the facts that lagging payments to suppliers ensures that the firm has some money to purchases more inventory for sale thus, increasing its sales levels boosting its profit. The positive relationship between ROA and Debt Ratio indicates that higher levels of debt ratio are beneficial to the ROA of organization. Thus, if the debt ratio is higher it is good for organization. Further, positive relation of Firm size with ROA indicates that larger firms report higher profits compared to smaller firms. Thus this might be because of larger firm's ability to exploit the economies of sales.

REGRESSION ANALYSIS:

Regression analysis is used to estimate the causal relationship between profitability and the other chosen dependent variables.

Relationship between CR and ROA:
Table 3. Relationship between CR and ROA
SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.47
R Square	0.22
Adjusted R Square	0.20
Standard Error	0.07
Observations	40

ANOVA

	df	SS	MS	F
Regression	1	0.05	0.052	10.7
Residual	38	0.18	0.005	
Total	39	0.23		

	Coeff.	Std err	t Stat	P-val
Intercept	0.12	0.02	6.85	0.00
X Variable 1	-0.04	0.01	-3.28	0.00

The above Regression table shows that there is negative relationship between CR and ROA. In above table P value is less than significance level 0.05. So we will reject the null hypothesis and accept the alternative hypothesis. Thus, there is negative significant relationship between CR and ROA.

2.3.2 Relationship between ACP and ROA:
Table. 4 Relationship between ACP and ROA

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.52
R Square	0.27
Adjusted R Square	0.25
Standard Error	0.07
Observations	40

ANOVA

	df	SS	MS	F
Regression	1	0.06	0.06	13.86
Residual	38	0.17	0.00	
Total	39	0.23		

	Coeff	Std err	t Stat	p-val
Intercept	0.12	0.02	7.33	0.00

X Variable 1	0.00	0.00	-3.72	0.00

The above regression table shows that there is negative relation between ACP and ROA. The P value is less than significance level 0.05. So, we will reject the null hypothesis and accept the alternative hypothesis. Thus, there is significant relationship between ACP and ROA.

2.3.3 Relationship between ICP and ROA;
Table.No.5 Relationship between ICP and ROA

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.20
R Square	0.04
Adjusted R Square	0.02
Standard Error	0.08
Observations	40

ANOVA

	df	SS	MS	F
Regression	1	0.01	0.01	2
Residual	38	0.22	0.01	
Total	39	0.23		

	Coeff	Std err	t Stat	P-value
Intercept	0.09	0.02	4.96	0.00
X Variable 1	-0.00017	0.00	-1.27	0.21

The above table shows that there is negative relationship between ICP and ROA. The P value is greater than significance level 0.05. So, we will accept the null hypothesis and reject the alternative hypothesis. Thus, there is no relationship between ICP and ROA.

Relationship between APP and ROA:
Table. 6 Relationship between APP and ROA

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.41
R Square	0.17
Adjusted R Square	0.15
Standard Error	0.07
Obs	40

ANOVA

	df	SS	MS	F
Regression	1	0.040	0.0400	7.829
Residual	38	0.194	0.0051	
Total	39	0.234		

	Coeff	Std err	t Stat	P-val
Intercept	0.046	0.0152	3.02	0.0045
X Var 1	0.001	0.0005	2.80	0.0080

The above table shows that there is positive relationship between APP and ROA. The coefficient value of APP is positive and P value is less than significance level 0.05. So, we are rejecting the null hypothesis and accepting the alternative hypothesis. Thus, there is a no relationship between APP and ROA.

Relationship between Debt ratio and ROA:

Table.7 Relationship between Debt Ratio and ROA

SUMMARY OUTPUT

Multiple R	0.48
R Square	0.23
Adjusted R Square	0.21
Standard Error	0.07
Obs	40

ANOVA

	df	SS	MS	F
Regression	1	0.055	0.055	11.585
Residual	38	0.179	0.005	
Total	39	0.234		

	Coeff	Std err	t Stat	p-val
Intercept	0.025	0.018 1	1.38	0.175
X Var 1	0.205	0.060 1	3.40	0.002

The above table shows that there is positive relationship between Debt ratio and ROA. The P value of Debt ratio is less than significance level 0.05. So, we are rejecting the null hypothesis and accepting the alternative hypothesis. Thus, there is no relationship between Debt ratio and Profitability.

2.3.6 Relationship between CCC and ROA:
Table. 8 Relationship between CCC and ROA
SUMMARY OUTPUT

Regression Statistics

Multiple R	0.59
R Square	0.35
Adjusted R Square	0.34
Standard Error	0.06
Obs	40

ANOVA

	df	SS	MS	F
Regression	1	0.082	0.0828	20.790
Residual	38	0.151	0.0039	
Total	39	0.234		

	Coeff	Std err	t Stat	P-val
Intercept	0.143	0.018	7.909	1E-09
X Variable 1	-0.0003	0.00007	-4.560	5E-05

The above table shows that there is negative relationship between CCC and ROA. The P value is lower than significance level 0.05. So, we are rejecting null hypothesis and accepting alternative hypothesis. Thus, there is relationship between CCC and ROA. The negative coefficient of CCC indicates that lower the CCC higher the ROA.

5.0 CONCLUSIONS
Working capital plays a vital role in the organization's operations and requires the efficient management. The management of working capital concerns the management of money, inventories, accounts receivable and accounts payable. It is necessary for an organization to monitor its working capital properly and maintain its balance at appropriate level. Shortage of working capital may lead to lack of liquidity as well as loss of production and sales.

From this study it is concluded that maintaining efficient level of working capital is very important not only for telecom sector for all other sector as well. The result of study shows that there is significant relationship between profitability and working capital management. The correlation analysis shows that ROA has negative relationship with ACP, ICP, CCC and Current ratio.

Likewise, ROA has positive relationship with APP, Firm size and debt ratio. The negative relationship between CCC and ROA indicates that higher CCC lowers the profitability and vice versa. The positive relationship between ROA and Debt ratio indicates that the companies with more debt are having higher level of ROA or are more profitable because of tax shield.

Regression analysis was used to check the significant impact on the profitability. The result shows that ROA has positive relationship between

ACP, APP, CCC and Debt ratio and negative relationship between Current ratio and ICP.

6.0 LIMITATION OF THE STUDY:

❖ The study is based on secondary data
❖ The study is limited to only one sector that is telecom industry of India
❖ Among different Telecom industry listed on NSE study is carried out only on few selected Telecom industry
❖ Sample size is limited due to the nature of the industry (oligopolistic)

6.0 SUGGESTION FOR FUTURE RESEARCH:

There are several research areas for further research purpose. One of research area is to focus on the financing or working capital and how to corporations can optimize the capital mix to ensure maximal liquidity. Another topic we can do survey is to study non listed companies as well other sectors of companies. Also details study about the specific topic working capital management could add more value.

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