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Impact of Working Capital Management on Profitability: A Study on Indian Telecom Sector

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Abstract

Working Capital Management refers to the management of current or short-term assets and liabilities. There are different components of Working Capital, like cash conversion cycle (CCC), average payment period (APP), average collection period, debt ratio, operating cycle. Working Capital also affect the Profitability and liquidity of the firm. Profitability an ability to create excess of revenue over expenses in order to Working Capital Management refers to the management of current or short-term assets and liabilities. There are different components of Working Capital, like cash conversion cycle (CCC), average payment period (APP), average attract and hold investment capital. Four useful measures of the profitability the rate of return on firm's asset (ROA) the rate of return on firm's equity (ROE), operating profit margin and net firm income. In this paper an attempt was made to study the impact of Working Capital Management on the Profitability of Telecomm sector. Secondary data is used in this study. The time period for the study was five years (2016-2021). In this two main variables are used to measure the impact of working capital management on the Profitability of telecommunication sector Dependent variable includes Return On Asset (ROA), Independent variable include Average Collection Period(ACP), Average payment Period (APP), Inventory Conversion Period(ICP), Cash Conversion Period(CCC), Debt Ratio.

Keywords: Working Capital Management, telecommunication, profitability, correlation, t-test

Introduction:

Telecommunication market is the world's second largest market with user base of 1.16 Billion. It also contributes to India's GDP. In January 2019 the total wireless subscriber base increased to from 1153.77million to 1165.41 million. Gross revenue of telecom sector stood Rs 68,228 crore in 3rd quarter of financial year 2021. Working capital management become very important with the increase in subscriber base and there is a lot of investment and major development in this sector.

Working capital includes current asset (cash and cash equivalent, temporary investment, accounts receivable, inventory) and current liabilities (accounts payable, wages payable, payroll taxes with held from employees, accrued expenses/liabilities)

Working capital management concerned with the ways and means of making working capital adequate to meet the short term obligations Working capital

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management is, therefore, concerned with the ways and means of making working capital adequate to meet the firm's short-term obligations. The effective working capital management involves the adoption of appropriate management policy.

Working capital is defined as current assets minus current liabilities. For example, if a company has current assets of $90,000 and its current liabilities are $80,000, the company has working capital of $10,000.

Working capital is an amount. Some factors that are needed to determine the amount of working include – company's growth rate, profitability, ability to get financing, how fast customer pay for goods and services and company pay to their supplier. In every business working capital can be increased or decreased accordingly. Profitability of the firm depends on return on asset (ROA). ROA means the managerial efficiency as it show how the firm's management converted the institution's asset under its control into earning.

Literature Review

Numerous studies have been conducted on this topic some subjective studies have been citied below

AH NGUYEN, HT PHAM,(2020)- the research sample includes 119 non-financial listed companies on Vietnam stock market over a period of 9 years from 2010 to 2018. Two statistical approaches include Ordinary least squares (OLS) and fixed effects model (FEM) are employed to address econometric issues and to improve the accuracy of the regression coefficients. The empirical results show the negative and significant impacts of the working capital management, which measured by cash conversion cycle (CCC) and three components of the CCC including accounts receivable turnover in days (ARD), inventory turnover in days (INVD), and accounts payable turnover in days (APD) on the firm's profitability measured by return on assets (ROA).

T Gonçalves**, C Gaio, F Robles(2018) -** Paper analyze the effects of economic cycle on the relationship between WCM and profitability, using a sample of UK unlisted companies between 2006 and 2014. We find that WCM efficiency increases profitability. This positive impact is even more important during economic downturns. Our results show multi-level effects of WCM on profitability and liquidity constraints, with varying economic conditions. Results matter economically and managerially and highlight the importance of considering WCM as part of overall corporate financial strategy.

M Graham, J Nikkinen**(2016) -** In this paper we examine the role of business cycles on the working capital–profitability relationship using a sample of Finnish listed companies over an 18-year period. We find the impact of business cycle on the working capital–profitability relationship is more pronounced in economic downturns relative to economic booms.

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V Tauringana, GA Afrifa**(2013)** - This paper aims to report the results of an investigation of the relative importance of working capital management, measured by the cash conversion cycle (CCC), and its components (inventory, accounts receivable and accounts payable) to the profitability of SMEs.

HA Qazi, SMA Shah, Z Abbas(2011) - The correlation between working capital and profitability of firms is analyzed for the management of cash cycle management. Working capital is made by the three important factors, debtor, creditor and stock. When we include cash conversion cycle (CCC) to working capital then it becomes working capital management (WCM).

I Lazaridis, D Tryfonidis(2006) - In this paper we investigate the relationship of corporate profitability and working capital management. We used a sample of 131 companies listed in the Athens Stock Exchange (ASE) for the period of 2001-2004. The purpose of this paper is to establish a relationship that is statistically significant between profitability, the cash conversion cycle and its components for listed firms in the ASE.

BG Malkiel(2003) - The intellectual dominance of the efficient-market revolution has more been challenged by economists who stress psychological and behaviorial elements of stock-price determination and by econometricians who argue that stock returns are, to a considerable extent, predictable. This survey examines the attacks on the efficient market hypothesis and the relationship between predictability and efficiency.

- **V Bewick, L Cheek, J Ball(2003)** - The present review introduces methods of analyzing the relationship between two quantitative variables. The calculation and interpretation of the sample product moment correlation coefficient and the linear regression equation are discussed and illustrated. **Sharma A.K. and Kumar Satish[14],** 'Effect of Working Capital Management on Firm Profitability: Empirical Evidence from India' [2011] Global Business Review.

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Research Objective

To study the background and characteristics of the Telecom industry in India
To find the relationship between working capital management (WCM) ratios and firm profitability in the Telecom Industry of India
To give suggestions and recommendation to improve working capital of telecom industry.

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Research Methodology

This study covers the five companies of telecom sector. In this research study descriptive research design is applied. It seeks to discover the idea and insight to bring out new relationship.

Research design	Descriptive
Types of investigation	Causal
Study setting	Non Contrived
Time Frame	Cross-sectional
Data Collection	Secondary

Limitation of the study

- **Limited sample size :-** The sample size was only the study of 5 companies which cannot be regarded as true.
- **Limited area of phase: -**The time period of the study is limited as the researcher takes 1 sector only it can be more.
- **Source of data** – The data is used is based on secondary data it can be used primary also.
- **Time period-**The time period of study is 6 year which can be increase.

Data Analysis And Interpration

❖ Return on Assets:-

Years	ROA
2016	-0.74
2017	-6.25
2018	-29.13
2019	-8.6
2020	-36.5
2021	-39.85

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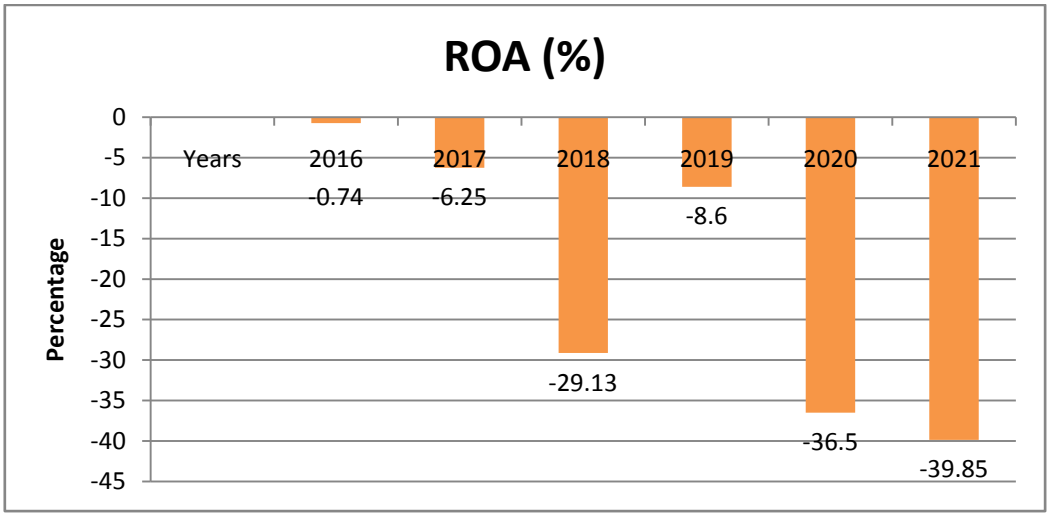
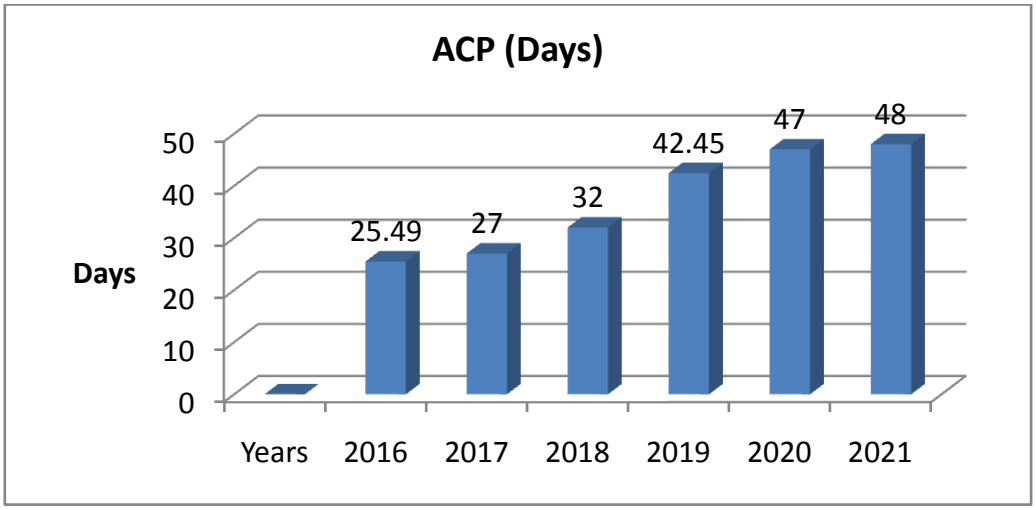


Interpretation: According to above table, it has been interpreted that the ROA of the companies are declining. From 2016 to 17, the numbers have minimum decline rate but after that it becomes the reason to think about the major issue behind this fall.

Average Collection Period:-

Years	ACP
2016	25.49
2017	27
2018	32
2019	42.45
2020	47
2021	48



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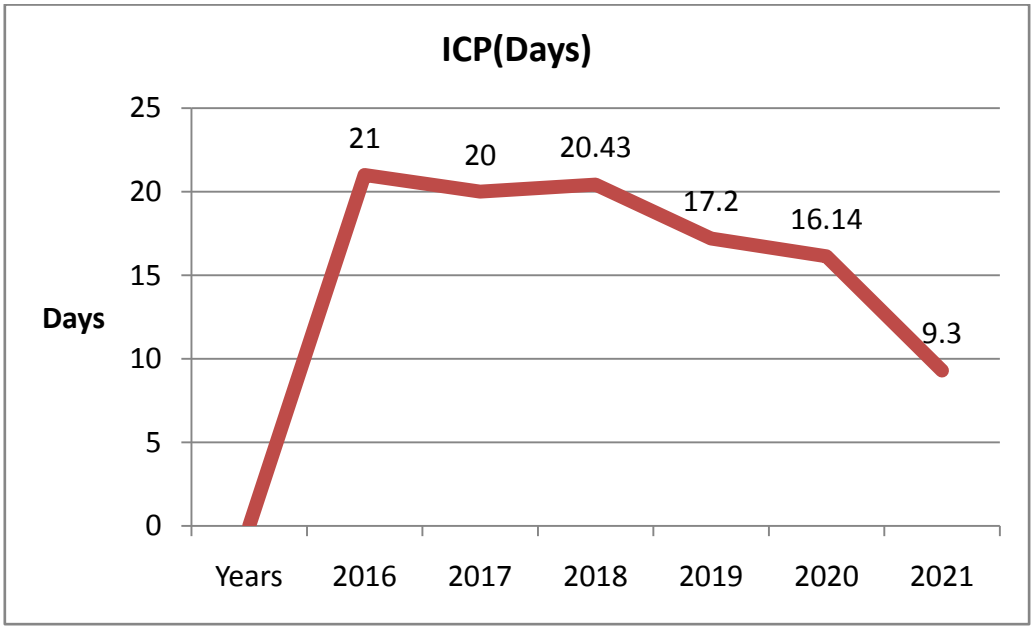
Interpretation: The average collection period of the companies is more because more time period show that companies getting amount from their debtor in more than expected time period, the above graph shows that companies collect amount from their debtor in 30 to 45 days.

❖ **Inventory Collection Period:-**

Years	ICP
2016	21
2017	20
2018	20.43
2019	17.2
2020	16.14
2021	9.3



Interpretation: Lesser inventory conversion period means companies are quickely sell their inventory and it also shows the lesser lockin period in inventory like in the above table from 2016 days in inventory are continously decling that's good for the telecom industry.

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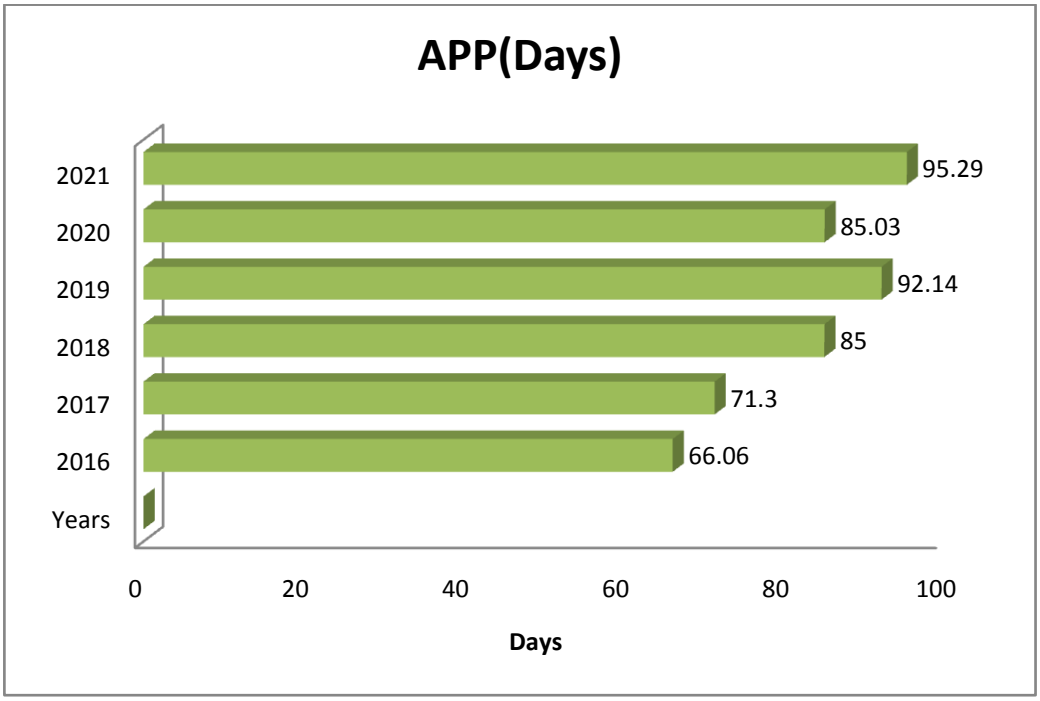
❖ Average Payment Period:-

Years	APP
2016	66.06
2017	71.3
2018	85
2019	92.14
2020	85.03
2021	95.29



Interpretation:-*DOP is an important financial ratio that investors look at to gauge the operational efficiency of a company. A higher *DOP means that the company is taking longer to pay its vendors and suppliers than a company with a smaller *DOP. Companies with high *DOPs have advantages because they are more liquid than companies with smaller *DOPs and can use their cash for short-term investments.

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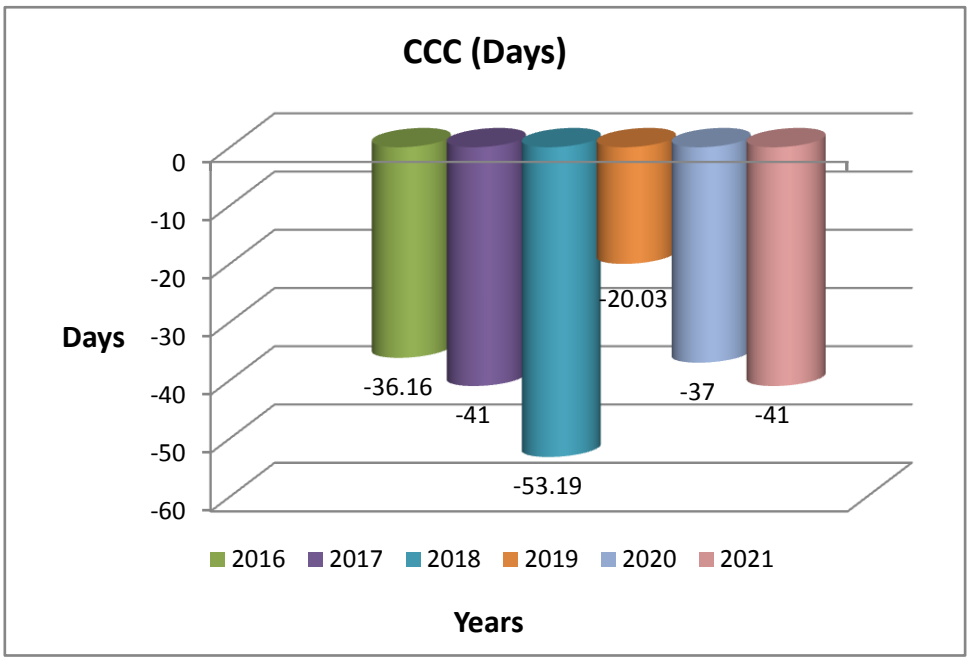
***DOP = Days outstanding Payment**

❖ Cash Conversion Cycle:-

Years	CCC
2016	-36.16
2017	-41
2018	-53.19
2019	-20.03
2020	-37
2021	-41



Interpretation: The cash cycle measures the amount of days between paying the vendor for the inventory and when the retailer actually receives the cash from the customer.

A small conversion cycle means that a company's money is tied up in inventory for less time. In other words, a company with a small conversion cycle can buy inventory, sell it, and receive cash from customers in less time.

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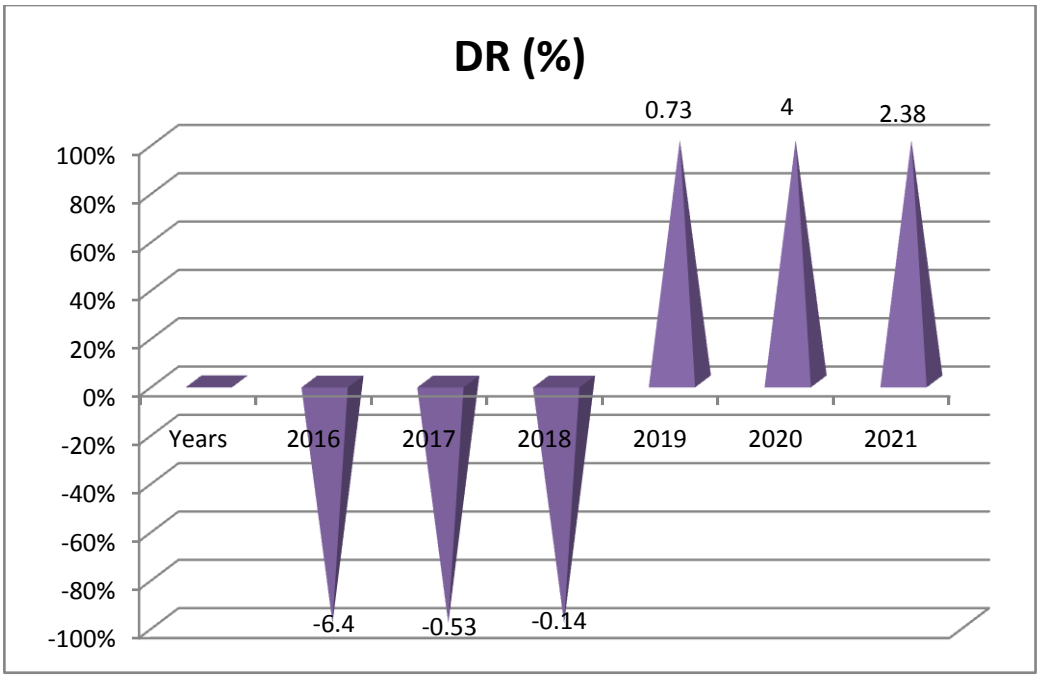
❖ Debt Ratio:-

Years	DR(%)
2016	-6.4
2017	-0.53
2018	-0.14
2019	0.73
2020	4
2021	2.38



Interpretation: -The debt ratio is shown in decimal format because it calculates total liabilities as a percentage of total assets. As with many solvency ratios, a lower ratios is more favourable than a higher ratio. A lower debt ratio usually implies a more stable business with the potential of longevity because a company with lower ratio also has lower overall debt. Each industry has its own benchmarks for debt, but .5 is reasonable ratio

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Statistical Tools

INTERPRETATION:

Mean:

The value of mean of all the variables is as follows:

-20.1783is for Return on Asset,36.9900is for Inventory Conversion Period, 17.3450 is for Average Collection Period,82.4700is for Average Payment Period,-38.0633is for Cash Conversion Cycle,.0067 is for Debt Ratio.

Descriptive Analysis

	N	Minimum	Maximum	Mean	Std. Deviation	Skewness	Kurtosis		
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Return on Asset	6	-39.85	-.74	-20.1783	16.96708	-.066	.845	-2.656	1.741
Inventory Conversion Period	6	25.49	48.00	36.9900	10.08149	-.041	.845	-2.612	1.741
Average Collection Period	6	9.30	21.00	17.3450	4.38453	-1.515	.845	2.292	1.741
Average Payment Period	6	66.06	95.29	82.4700	11.53146	-.542	.845	-1.344	1.741
Cash Conversion Cycle	6	-53.19	-20.03	-38.0633	10.73330	.573	.845	2.098	1.741
Debt Ratio	6	-6.40	4.00	.0067	3.56251	-1.232	.845	2.316	1.741
Valid N (list wise)	6								

Standard deviation:

As value of Standard Deviation for majority of variables is very high, it shows that the data is inconsistent. The value of standard deviation shows the variations come in Telecom sector which is 16.96708 for Return on Asset,10.08149 is for Inventory Conversion Period,4.38453is for Average Collection Period,11.53146is for Average Payment Period, 10.73330is for Cash Conversion Cycle, 3.56251 is for Debt Ratio.

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Skewness:

- ✓ For Return on Asset, the value of skewness is -.066which means it is asymmetrical and graph of it will be negatively skewed.
- ✓ For Inventory Conversion Period, the value of skewness is -.041which means it is asymmetrical and graph of it will be negatively skewed.
- ✓ For Average Collection Period, the value of skewness is-1.515which means it is asymmetrical and graph of it will be negatively skewed.
- ✓ For Average Payment Period, the value of skewness is -.542 which means it is asymmetrical and graph of it will be negatively skewed.
- ✓ For Cash Conversion Cycle, the value of skewness is.573which means it is asymmetrical and graph of it will be positively skewed.
- ✓ For Debt Ratio, the value of skewness is -1.232which means it is asymmetrical and graph of it will be negatively skewed.

Kurtosis:

- ❖ The value of Return on asset is-2.656 which is less than 2, so the distribution is leptokurtic.
- ❖ The value of Inventory Conversion Period is-2.612which is less than 2, so the distribution is leptokurtic.
- ❖ The value of Average Collection Period is2.292, so the distribution is leptokurtic.
- ❖ The value of Average Payment Period is-1.344, so the distribution is leptokurtic.
- ❖ The value of Cash Conversion Cycle is2.098, so the distribution is leptokurtic.
- ❖ The value of Debt Ratio is 2.316, so the distribution is leptokurtic.

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CORRELATION

Correlations

		Return on Asset	Inventory Conversion Period	Average Collection Period	Average Payment Period	Cash Conversion Cycle	Debt Ratio
Return on Asset	Pearson Correlation	1	-.742	.690	-.694	.418	-.775
	Sig. (2-tailed)		.091	.129	.126	.409	.070
	N	6	6	6	6	6	6
Inventory Conversion Period	Pearson Correlation	-.742	1	-.839*	.873*	.295	.834*
	Sig. (2-tailed)	.091		.037	.023	.570	.039
	N	6	6	6	6	6	6
Average Collection Period	Pearson Correlation	.690	-.839*	1	-.749	-.118	-.631
	Sig. (2-tailed)	.129	.037		.086	.824	.179
	N	6	6	6	6	6	6
Average Payment Period	Pearson Correlation	-.694	.873*	-.749	1	.166	.771
	Sig. (2-tailed)	.126	.023	.086		.753	.073
	N	6	6	6	6	6	6
Cash Conversion Cycle	Pearson Correlation	.418	.295	-.118	.166	1	.010
	Sig. (2-tailed)	.409	.570	.824	.753		.985
	N	6	6	6	6	6	6
Debt Ratio	Pearson Correlation	-.775	.834*	-.631	.771	.010	1
	Sig. (2-tailed)	.070	.039	.179	.073	.985	
	N	6	6	6	6	6	6

*. Correlation is significant at the 0.05 level (2-tailed).

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INTERPRETATION:

Correlation between Return on Assets and other independent variables of Telecom industry. :-

- **Correlation between ROA and ICP:**

  There is a-.742negative moderate degree correlation between ROA and ICP which means Correlation is insignificant because P value is more than .05.
- **Correlation between ROA and ACP:**

  There is a .690positivemoderate degree correlation between ROA and ACP which means Correlation is insignificant because P value is more than .05.
- **Correlation between ROA and APP:**

  There is a -.694negative moderate degree correlation between ROA and APP which means Correlation is insignificant because P value is more than .05.
- **Correlation between ROA and CCC:**

  There is a .409positive moderate degree correlation between ROA and CCC which means Correlation is insignificant because P value is more than .05.
- **Correlation between ROA and DR:** There is a -.775negative high degree correlation between ROA and DR which means Correlation is insignificant because P value is more than .05.

T – TEST One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
Inventory Conversion Period	6	36.9900	10.08149	4.11575
Average Collection Period	6	17.3450	4.38453	1.78998
Average Payment Period	6	82.4700	11.53146	4.70770
Cash Conversion Cycle	6	-38.0633	10.73330	4.38185
Debt Ratio	6	.0067	3.56251	1.45439

One-Sample Test

	Test Value = 2.5					
					95% Confidence Interval of the Difference	
	T	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
Inventory Conversion Period	8.380	5	.000	34.49000	23.9101	45.0699
Average Collection Period	8.293	5	.000	14.84500	10.2437	19.4463
Average Payment Period	16.987	5	.000	79.97000	67.8685	92.0715
Cash Conversion Cycle	-9.257	5	.000	-40.56333	-51.8272	-29.2994
Debt Ratio	-1.714	5	.147	-2.49333	-6.2320	1.2453

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Interpretation :-

From the T-Test analysis, it has been seen that all the p values of independent variable have significant value less than 0.05 except debt ratio as its p value is more than significant value i.e. .147, so there is an insignificant relationship between Debt Ratio and Return on Asset.

RESULT & FINDINGS

On the basis of Descriptive analysis:-

- **Mean:** The value of mean of all the variables shows the average value of telecom sector
- **Standard deviation:** As value of Standard Deviation for majority of variables is high, it shows that the data is inconsistent..
- **Skewness:** Majority of variables approaches to negatively skewed distribution except for Cash Conversion Cycle.
- **Kurtosis :**Value of 3 variables i.e. (ROA,ICP,APP) is leptokurtic distribution and other 3 i.e.(ACP,CCC,DR) is leptokurtic distribution.

On the basis of Correlation :-

Ratio and Return on Asset. There is a-.742negative moderate degree correlation between ROA and ICP, There is a .690positivemoderate degree correlation between ROA and ACP, There is a -.694negative moderate degree correlation between ROA and APP, There is a .409positive moderate degree correlation between ROA and CCC, There is a -.775 negative high degree correlation between ROA and DR.

On the basis of T - Test:-

From the T-Test analysis, it has been seen that all the p values of independent variable have significant value less than 0.05 except debt ratio as its p value is more than significant value i.e. .147, so there is an insignificant relationship between Debt ratio and return on asset

Conclusion:

The aim of the paper is to study the impact of working capital management on the profitability of the telecom sector. For the purpose of this study different statistical tools are used and it shows different positive and negative results. On the basis of results their are different recommendations like
The company should try to reduce their financial expenses so that the funds saved can be invested in such assets which can increase the profitability of the company.
Company should focus on the cash conversion cycle because lower cash conversion means less time tied up in inventory.
Payment of creditor made in time because help in maintaining the goodwill
Company should try to maintain the minimum level of working capital all the time as they have to maintain the day today operations of the business.

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(This book helps in getting the information about the study setting of the research)
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(The various type of research design and the other concepts of research methodology are studied from this book)
Kothari C.R.[4]**,** (Edition 2nd)**,**"*Research Methodology Methods and Techniques*":
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Weblink[37] :- https://www.spss-tutorials.com/linear-regression-in-spss-example/
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