IMPACT OF WORKING CAPITAL MANAGEMENT ON FIRM'S PROFITABILITY (A CASE OF TELECOM SECTOR IN PAKISTAN)

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ABSTRACT

This study evaluated the effect of working capital management on the profitability of the Telecom Sector in Pakistan. It examined the influence of the average receivable collection period (ACP), inventory conversion period (ICP), average payment period (APP) and cash conversion cycle (CCC) on the profitability of the aforementioned firms with 5 year's data (2013-2017). This study deals with the performance of the Telecom Sector companies working in Pakistan with respect to its working capital management on profitability. The main goal of this study is to examine the relationship between the core components of working capital management with the

profitability of the Telecom Sector in Pakistan. The result of the regression model identified that the average receivable collection period (ACP) and Inventory conversion period (ICP) to be the significant factors followed by the average payment period (APP) and cash conversion cycle (CCC). The result of the current study found that there is a negative and significant relationship between working capital management and the firm's profitability. It is concluded that the profitability of these telecom organizations is greatly influenced by the average receivable collection period (ACP), inventory conversion period (ICP), average payment period (APP), and cash conversion cycle (CCC).

1. INTRODUCTION

Working capital is a part of the total investment by a company and is often described as a difference between short-term assets and short-term liabilities. Mohammad (2015) said that WCM as current assets and current liabilities. Working capital shows the flow of available funds that can pay for operating costs. Working capital plays a substantial role in the capital management firm and decision making (Samiloglu & Akgün, 2016). Working capital management is of two types**:** permanent and temporary. Permanent working capital is related to the day-to-day changes in current assets which is also called gross working capital, and temporary working capital is related to the seasonal effects of current assets (Berk *et al*., 2008).

WCM, such as the decision-making and corporate management strategy, is involved in dealing with capital management issues, which generally affect the magnitude and effectiveness of the company's working capital. To meet the short-term debt responsibilities and operating costs of the company, WCM ensures that companies have a lot of money. The effective working capital management system is necessary to improve the company's profits. The lack of efficient working capital management not only reduces the company's profits but also affects the profit situation (Manzoor, 2013). Since the maximum operating capital leads to the extraordinary use of low funds and prevents the general operation of the incomplete capital management company. Organizations should properly manage working capital and benefit from the competition and have better performance in foreign financial funds and reduce external financial issues (Mathuva, 2010).

Working capital includes all short-term assets used by the company in day to day events. Working capital is the amount of liquidity that is described as cash flows to meet the company's responsibilities (Appuhami, 2008). WCM is also very important for a company to be successful. Companies try to maintain the highest level of working capital. The company manages the proper management of capital, cash invoices, inventory, payroll, etc. (Arbidane, 2013).

2. LITERATURE REVIEW

WCM is defined as the process which ensures that the company's most financially efficient operation, two working capital states, current assets, and current liabilities are monitored and used by a corporate accounting strategy. If the current assets are less than current liabilities, the institution is the absence of working capital, also called the working capital deficit ("Working Capital Management", 2016). Tauringana (2013) worked on the importance of WCM and its components (inventories, receivables) and the profitability of SMEs. The result of the study found that there is a negative relationship between independent and dependent variables. Babu and Chalam (2014) point out that company managers can create their inventory value by reducing the number of daily accounts and maximizing inventory payment time. It also shows that supervisors of these companies must spend more time managing their company transition cycle and effective working capital management strategies. The result found that there is a negative relationship.

Alagathurai (2013) explained that WCM has an impact on the company's profitability. Managers can create values for shareholders and find their way through the correct management of the business's profitability. Considering the results, one of the company's goals is to reduce the cash conversion cycle, which will improve performance. As a result of the longer cash conversion cycle, more companies will have to finance the company. Almazari (2013) studied that the current ratio is the most significant liquidity measures affecting profitability. Companies must balance between these two so that liquidity and profitability are not affected. The result found that there is a negative relationship between these two measures. It was observed that the size of the organizations and profit margin moved in the same direction. A study on the cash conversion cycle (CCC) and firm performance of Japanese companies confirmed that CCC had a strong negative correlation with firm performance measured through return on assets for all the industries apart from the consumer and services industry (AlHajjar, 2014).

Bose (2013) proved the relationship between profitability and WCM of companies listed on the Tehran Stock Exchange between 2001 and 2008. The result shows a significant negative link between the conversion cycle and asset' returns. A similar study has been conducted with US firms between 1975 and 1994 and evidence a strong negative connection between profitability and cash transitions (Azam, 2011). Cryillie (2012) examined that increase in cash leads to the company' performance. Hayajneh and AitYassine (2011) determined the impact of labor productivity on profitability. This study was an empirical analysis of Jordanian pharmaceutical companies and found a negative relationship. Charitou, *et al.*, (2010) studied that competent usage of an organization's assets leads to more stability and productivity after they established the relationship between working capital management and profitability of listed firms on the Cyprus Stock Exchange.

Lind *et al.*, (2012) clarified that with the compelling administration of capital-work, the organization could build money to accomplish extra key objectives, decrease monetary expenses. Miller and Orr (1966) model of cash management revealed that companies allow their cash balances to move within two limits, that is, upper and lower limits. Companies, therefore, buy and sell their marketable securities in the event that cash balance is on the lower or the upper limit. Baumol (1952) stated that converting securities to cash or rather liquidating securities attracts transaction costs. With the increase in transaction costs, cash managers hold higher cash balances. Sevwu and Yu (2012) studied that efficient working capital management required the efficient policies of firm receivables, inventories, and payables. The firms that utilized their short-term borrowing on their short-term investment and long-term borrowing on long-term investment is a mark of good management. Zawaira and Mutenheri (2014) asserted that a firm's profitability might not be influenced by all

working capital measures. Profitability can also be enhanced by the size of the firm. The payables deferral method was found to negatively influence profitability. Waithaka (2012) argues that efficient cash management, receivables, and inventory management had a direct influence on sales, growth in total assets, and firms' profitability.

3. DATA AND ESTIMATION TECHNIQUES

3.1. Data

The population of the current study is the Telecom Sector i.e service providing firms e.g. Ufone, Zong, Telenor, Mobilink, and PTCL. This study used a complete enumeration sampling technique because the population is equal to the sample. The data is collected over the number of 5 years from 2013-2017. The nature of this research is causal and cross-sectional based on financial data of these telecom sector service providing firms. Data for this study has been collected from secondary sources e.g. financial statements of the Telecom Sector.

3.2. Model Specification

Based on the above literature review, the current study used the following econometric models for empirical analysis:

$$ROA_{it} = \alpha_o + \alpha_1 APP_{it} + \alpha_2 ICP_{it} + \alpha_3 ACP_{it} + \alpha_4 CCC_{it} + \varepsilon_{it} \qquad (1)$$

$$ROE_{it} = \alpha_o + \alpha_1 APP_{it} + \alpha_2 ICP_{it} + \alpha_3 ACP_{it} + \alpha_4 CCC_{it} + \varepsilon_{it} \qquad (2)$$

Where, APP = Average Payment Period, ICP = Inventory Conversion Period, ACP = Average Receivables Collection Period, CCC = Cash Conversion Cycle, ROA_{it} = Return on Asset, ROE_{it} = Return on Equity, αo = The intercept of equation, $\alpha 1$, $\alpha 2$, $\alpha 3$, $\alpha 4$ = Slope Coefficient or Regression Coefficient, ε_{it} = Unexplained variable or Error Term

4. EMPIRICAL RESULTS

4.1. Descriptive Analysis

Descriptive statistics are descriptive parameters that summarize the set of given records, which can be representative of a whole population or sample. Descriptive statistics measure central tendencies and variance or spread.

Table 1 Descriptive Statistics

	Range	Minimum	Maximum	Mean	Standard Deviation
APP	11.9	-2.80	9.11	5.3667	1.8470
ICP	10.2	-2.60	7.65	4.575	2.4472
ACP	10.6	-2.40	8.25	4.883	3.0324
CCC	11.5	-2.30	9.20	4.9635	2.4053
ROA	12.0	-2.95	9.11	10.700	3.3452
ROE	10.6	-2.40	8.25	5.943	5.6186

Table 1 signifies the summary statistics of all variables used in the analysis in the shape of range, minimum value, maximum value, mean, and standard deviation values. As seen from Table 1, the mean value for average payment period (APP), inventory conversion period (ICP), average receivable collection period (ACP) and cash conversion cycle (CCC) are 5.3667, 4.575, 4.883, 4.963 with minimum values of -2.80, -2.60, -2.40, -2.30, maximum values of 9.11, 7.65, 8.25, 9.20 and standard deviation of 1.8470, 2.4472, 3.0324, 2.4053 respectively. The dependent variable (ROA) has a mean value of 10.700, the range of 12.0

minimum value of -2.95, the maximum value of 9.11, and a standard deviation of 3.3452. Similarly, in the case of (ROE), the sample firm's shows mean value of 5.943, the range of 10.6, the minimum value of -2.40, the maximum value of 8.25, and standard deviation of 5.6186.

4.2. Correlation Analysis

Table 2 Correlation Analysis

		APP	ICP	ACP	CCC	ROA	ROE
APP	Pearson Correlation	1					
ICP	Pearson Correlation	0.561*	1				
ACP	Pearson Correlation	0.655**	0.599*	1			
CCC	Pearson Correlation	-0.663**	0.698**	0.572*	1		
ROA	Pearson Correlation	-0.891**	-0.991**	-0.771**	-0.982*	1	
ROE	Pearson Correlation	-0.881**	-0.761**	-0.729*	-0.783**	0.683**	1

**. Correlation is significant at the 1%.

*. Correlation is significant at 5%.

From the above Table 2, it is obvious that all the independent variables (APP, ICP, ACP, CCC) are significant and negatively correlated with dependent variables (ROA, ROE). Few are significant at 1% (-0.891**, -0.991**, -0.771**, -0.881**, -0.761**, -0.783**) and few are significant at 5% (-0.982*, -0.729*).

4.3. Regression Analysis

In statistical modeling, it is a statistical process for estimating the relationships among variables.

Table 3 Model Summary for ROA

Model Summary				
Model	R	R Square	Adjusted R Square	Standard Error of the Estimate
1	0.722[a]	0.521	0.425	0.4062

Predictors: (Constant), Independent Variables

The results show that 42.5% of the variation in the dependent variable (ROA) i
Predictors: (Constant), Independent Variables.

Table 4 ANOVA for ROA

ANOVA[b]						
	Model	Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	3.614	4	0.903	5.472	.000[a]
	Residual	3.316	20	0.165		
	Total	6.93	24			

The results of ANOVA as reflected in Table 4 indicate that working capital management as expressed by independent variables ICP, ACP, APP, and CCC is a statistically significant relationship with firm profitability i.e. ROA ($F = 5.472$; $p < 0.05$).

Table 5 Coefficients for ROA

	Model	Unstandardized Coefficients		Standardized Coefficients		
		B	Standard Error	Beta	T	Sig.
1	(Constant)	7.029	2.763		2.541	.000
	APP	-0.393	0.142	-0.217	-2.765	.000
	ICP	-0.190	0.087	-0.139	-2.188	.000
	ACP	-0.353	0.114	-0.320	-3.095	.000
	CCC	-0.541	0.150	-0.389	-3.604	.000

Dependent Variable: ROA

As from Table 5, for unstandardized coefficients, every unit increase in APP brings (-0.393) units change in the dependent variable (ROA), similarly, all other variables (ICP, ACP, and CCC) have the same scenario. As for standardized coefficients, every standard deviation increase in APP brings (-0.217) standard deviation change independent variables (ROA). Similarly, all other variables (ICP, ACP, and CCC) have the same scenario so, all the variables are the significant and negative impact on the dependent variable (ROA).

Table 6 Model Summary for ROE

Model Summary				
Model	R	R Square	Adjusted R Square	Standard Error of the Estimate
1	0.681[a]	0.463	0.355	0.34928

Predictors: (Constant), Independent Variables

The results show that 35.5% of the variation in the dependent variable (ROE) is explained by independent variables (APP, ICP, ACP, and APP).

Table 7 ANOVA for ROE

	Model	Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	2.113	4	0.528	4.327	.000[a]
	Residual	2.45	20	0.122		
	Total	4.563	24			

The results of ANOVA as reflected in Table 7 confirms that working capital management as demonstrated by independent variables (ICP, ACP, APP, and CCC) is a statistically significant relationship with firm profitability i.e. ROE (F = 4.327; p < 0.05).

Table 8 Coefficients for ROE

	Model	Unstandardized Coefficients		Standardized Coefficients		
		B	Standard Error	Beta	T	Sig.
1	(Constant)	9.208	3.763		2.443	.000
	APP	-0.245	0.105	-0.080	-2.332	.000
	ICP	-0.332	0.091	-0.144	-3.640	.000
	ACP	-0.693	0.164	-0.374	-4.221	.000
	CCC	-0.577	0.141	-0.247	-4.093	.000

Dependent Variable: ROE

As from Table 8, for unstandardized coefficients, every unit increase in APP brings (-0.245) unit change in the dependent variable (ROE), similarly, all other variables (ICP, ACP, and CCC) have the same scenario. As for standardized coefficients, every standard deviation increase in APP brings (-0.080) standard deviation change independent variables (ROE). Similarly, all other variables (ICP, ACP, and CCC) have the same scenario so, all the variables are the significant and negative impact on the dependent variable (ROE).

5. CONCLUDING REMARKS

It is found that all the measures relating to working capital management have a significant and negative relationship with dependent variables (ROA, ROE) so, all the hypotheses of the current research are accepted based on the findings. Telecom Sector should adopt policies to decrease APP and CCC in the term to get less chance for efficient working capital management and high profitability to benefit customers. Telecom Sector should adopt policies to decrease ACP and ICP in the term to get less chance for efficient working capital management and high profitability to benefit customers. The cash conversion cycle is critical in the management of current assets. It is therefore recommended that Telecom firms should have a shorter cash conversion cycle in order to realize cash promptly to run the firm profitably. Payables and receivables are optimally managed to enhance firm liquidity and profitability.

The limitations & direction for future research of the current study include: the sample size is too small, in the future, with a large sample; further research can be conducted for better results. The complete enumeration sampling technique used for less sample size, in future, take other sampling technique for large sample size. This study used cross-sectional data, in the future time-series data or panel data can be used for better and accurate results. The Telecom sector is selected for the current study, in future research can be done in other sectors.

The purpose of this research was to learn the relationship between the core components of WCM and performance. The result of the regression model identified that the average receivable collection period (ACP) and inventory conversion period (ICP) to be the significant factors followed by the average payment period (APP) and cash conversion cycle (CCC). The result of the current study found that a negative and significant relationship among working capital management and the firm's profitability. Most of the previous researches showed significant and negative results of ACP, ICP, APP, and CCC with dependent variables (ROA, ROE). The current study results are linked with previous researches like Samiloglu & Akgün (2016), Deloof (2003), and Lazaridis and Tryfonidis (2006).

REFERENCES

[1]   Alagathurai, A. (2013). Working Capital Management (WCM) and Corporate Profitability (CP): A Study of Selected Listed Companies in Sri Lanka.

[2]   Almazari, A. A. (2013). The relationship between working capital management and profitability: Evidence from Saudi cement companies. *British Journal of Economics, Management & Trade*, *4*(1), 146-157.

[3]   Appuhami BAR (2008), The Impact of Firms' Capital Expenditure on Working Capital Management: An Empirical Study across Industries in Thailand. *International Management Review* 4 (1), 8-21.

[4]   Arbidane, I., & Ignatjeva, S. (2012). The relationship between working capital management and profitability: A Latvian case.

[5]   Azam M, Haider SI (2011), Impact of Working Capital Management on Firms' Performance: Evidence from Non- Financial Institutions of KSE-30 İNDEX. *Interdisciplinary Journal of Contemporary Research in Business* 3 (5), 481-491.

[6]   Babu, N., & Chalam, G. V. (2014). Study on the Working Capital Management Efficiency in Indian Leather Industry-An Empirical Analysis. *International Journal of Research in Management & Technology (IJRMT)*, *4*(5).

[7]   Baumol, W. J. (1952). The transactions demand for cash: An inventory-theoretic approach. *The Quarterly Journal of Economics*, 545-556.

[8]   Berk J, Demarzo P, Harford J (2008), *Fundamentals of Corporate Finance*. Pearson Prentice Hall, New York.

[9]   Bose B (2013), The Impact of Working Capital Management Practices on Firms Profitability. *International Journal of Applied Research and Studies (IJARS)* 2(6), 1-15.

[10]   Charitou MS, Elfani M, Lois P (2010), The Effect of Working Capital Management on Firm's Profitability: Empirical Evidence from an Emerging Market. *Journal of Business & Economics Research* 8, No.12, 63-68.

[11]   Cryillie, Slovik, P. (2012). Systemically important banks and capital regulation challenges.

[12]   Deloof, M. (2003), Does working capital management affect profitability of Belgian firms? Journal of Business Finance and Accounting, 30(3-4), 573-588

[13]   Hayajneh, O. S., & Yassine, F. L. A. (2011). The impact of working capital efficiency on profitability–An empirical analysis of Jordanian manufacturing firms. *International Research Journal of Finance and Economics*, *66*(2011), 67-69.

[14]   Lind, L., Pirttilä, M., Viskari, S., Schupp, F., & Kärri, T. (2012). Working capital management in the automotive industry: Financial value chain analysis. *Journal of purchasing and supply management*, *18*(2), 92-100.

[15]   Lazaridis, I., Tryfonidis, D. (2006), Relationship between working capital management and profitability of listed companies in the Athens stock exchange. Journal of Financial Management and Analysis, 19(1), 26-35.

[16]   Manzoor, H (2013), Working capital management and profitability: Evidence from the Cement sector of Pakistan, listed on Karachi stock exchange. *Journal of Business Administration and Management Sciences Research* 2 (10), 215-223.

[17]   Mathuva, DM, (2010), The Influence of Working Capital Management Components on Corporate Profitability: A Survey on Kenyan Listed Firms. *Research Journal of Business Management* 4 (1), 1-11.

[18]   Miller, M. H., & Orr, D. (1966). A Model of the Demand for Money by Firms. *The Quarterly Journal of Economics*, *80*(3), 413-435.

[19]   Muhammad, S., Rabi'U, S. J., Wambai, U. S. K., Ibrahim, F. B., & Ahmad, T. H. (2015). The effect of working capital management on corporate profitability: Evidence from Nigerian food product firms. *Applied Finance and Accounting*, *1*(2), 55-63.

[20]   Nobanee, H., & Al Hajjar, M. (2014). Optimizing working capital management.

[21]   Samiloglu, F., & Akgün, A. İ. (2016). The relationship between working capital management and profitability: Evidence from Turkey. *Business and Economics Research Journal*, *7*(2), 1.

[22]   Serwu. Y., & Yu, H., (2012). Potential impacts of industrial structure on energy consumption and CO2 emission: a case study of Beijing. *Journal of Cleaner Production*, *103*, 455-462.

[23] Tauringana, V., & Adjapong Afrifa, G. (2013). The relative importance of working capital management and its components to SMEs' profitability. *Journal of Small Business and Enterprise Development*, *20*(3), 453-469.

[24] Waithaka, A. (2012). *The relationship between working capital management practices and financial performance of agricultural companies listed at the Nairobi Securities Exchange* (Doctoral dissertation).

[25] Working capital management. (2016). Retrieved from

[26] https://www.investopedia.com/terms/w/workingcapitalmanagement.asp

[27] Zawaira, T., & Mutenheri, E. (2014). The association between working capital management and profitability of nonfinancial companies listed on the Zimbabwe stock exchange. *Int. J. Res. Soc. Sci*, *3*(8), 114-120.