Inspira-Journal of Commerce, Economics & Computer Science (JCECS)
ISSN : 2395-7069 General Impact Factor : 2.7273, Volume 05, No. 02, April-June, 2019, pp. 01-08

EMPIRICAL ANALYSIS OF EFFECT OF WORKING CAPITAL MANAGEMENT ON PROFITABILITY: EVIDENCE FROM LISTED PHARMACEUTICAL COMPANIES IN INDIA

Dr. Butalal Ajmera*

ABSTRACT

In this research paper, an attempt has been made to study the effect of working capital on profitability. Study period was of five year from 2013-2014 to 2017-2018. The researcher has conveniently selected five pharmaceutical companies namely Cipla Ltd., Lupin Ltd., Sun Pharma Ltd., Torrent Pharmaceuticals and Dr Reddys Laboratories. In order to examine correlation between working capital management and profitability, Correlation matrix was prepared with the help of SPSS. The result of the correlation shows that three variable of working capital- current ratio, liquidity ratio and inventory turnover ratio have significant correlation with the variables of profitability like RON, ROCE, GPR, NPR and EPS and two variables of working capital debtor turnover ratio and working capital turnover ratio are negatively correlated with profitability variables return on capital employed, return on net-worth, Earning per share, gross profit ratio, net profit ratio and operating profit ratio. In order to examine the effect of working capital, three model of regression -Pooled OLS, Fixed effect and Random effect models were prepared with help of STATA 14.2 version. Pooled OLS and Random effect model have similar result. Therefore, researcher has selected random effect model to examine the robustness with fixed effect model. Current ratio has positive and significant effect on return on capital employed, whereas liquidity ratio has negative and significant effect on return on capital employed. Besides this, inventory turnover ratio has also positive and significant effect on return on capital employed. Other independent variables like debtor turnover ratio and working capital turnover ratio have positive and statistically insignificant effect on return on capital employed.

KEYWORDS: *Working Capital Management, Profitability, Correlation Matrix and Regression.*

Introduction

The aim of working capital management is to manage the firm's current assets and liabilities in such a way that a satisfactory level of working capital is maintained. Gross working capital is the the total current assets. Net working capital means difference between current assets and current liabilities. It is also said that a portion of current assets which is finance with long –term funds. Most important aspect of the working capital management is the trade off between profitability and risk. It means that net working capital has an effect on profitability as well as risk. The term profitability means profit after tax. The term risk means probability that a firm will become technically insolvent so that it will not be able to meet its obligations when become due payment. It is said that greater the amount of net working capital, lesser risk prone the firm is. Conversely lower levels of net working capital and liquidity are associated with increasing risk. So there is an inverse relationship between working capital management and risk. As working capital increases, it decreases the risk. There is also relationship between working capital and profitability. Increased level of working capital reduces the profitability. Here it is assumed that current assets are less profitable than fixed assets.

* Associate Professor, Department of Commerce, Faculty of Finance and Accounting, M.K. Bhavnagar University, Bhavnagar, Gujarat, India.

An increase in the ratio of current assets to total asset would lead to decline in profitability because current assets are assumed to be less profitable than fixed asset. Conversely a decrease in the ratio of current assets to total assets would result in an increase in profitability as well as risk. Profitability is also impacted when there is a change in current liabilities to total assets ratio. An increase in the ratio of current liabilities to total assets would be that profitability would increase. Conversely, a decrease in the ratio is exact opposite to the result of an increase.

Review of Literature

Researcher has reviewed research papers and articles related to the selected research topic and brief overview of review of literature is presented below:

Prabhu C baskarkod (2018) worked on working capital management of JSW steel ltd. for the period of 2011-2012 to 2015-2016. The result of the research shows that effective administration of cash and trade creditor impact on working capital.

Ahm Yeaseen Chowdhury, Mohmmad Zahedul Alam, Sabiha Sultana and Md.Kaysher Hamid (2018) researched on impact of working capital management on profitability of pharmaceutical companies in Bangladesh for the period of 2001 to 2015. The research reveals that return on assets has negative significant relationship with average collection period, inventory conversion and cash conversion cycle. Whereas return on equity is also negatively but significantly connected with average payment period, earning per share and average collection period and average payment period. Whereas return on assets has positive and significant relation with cash conversion cycle.

Mubashir Hassan Qurashi (2017) investigated impact of working capital on profitability of pharmaceutical and biotechnology of UK for the period of 2009 to 2015. The researcher has built five model of regression the result of each is like this in model-1 stock conversion period, leverage and firm size have significant effect on return on capital employed. Model-2 explains that debtor collection period, leverage and firm size have significant impact on return on capital employed. Model -3 indicates that leverage and firm size have also significant effect of return on capital employed. Model-4 explains that leverage and firm size have significant effect on return on capital employed. Model -5 explains that stock conversion period, debtor collection period, leverage and firm size have also impacted significantly.

Yakub, Ibrahim Nandom et. All (2017) examined the impact of working capital management on performance of listed non-financial firms in Ghana for the period of 2010 to 2015. Researcher has prepared three models. The ordinary least square method explains that Average collection period and current ratio have significant effect on return on assets. Fixed effect model explains that no any selected variables have significant effect on return on assets. Random effect Model explains that account collection period, average payment period, cash conversion

P.Kalaivani and K.joshi (2017) did research on impact of working capital management on profitability in car manufacturing firms in India for the period of 2007 to 2016. The result of the research revealed that debtor turnover ratio, inventory turnover ratio and working capital turnover ratio and current assets turnover ratio have positive and significant effect on return on assets.

G. Ramnaiah and B.Vidyavathi (2016) worked on impact of working capital components on profitability of Ambuja Cement Ltd. for the period of 206-2007 to 2015-2016. The result of the study revealed that there is a strong correlation between inventory turnover and average period with profitability. Moreover study also resulted that the liquidity positions of the firm a very good.

Aravind M (2016) effect of working capital metrics on profitability of Indian manufacturing sector for the period of 2005-2006 to 2014-2015. The result indicates that cash conversion cycle has positive relationship with net profit ratio and cash conversion cycle has negative relation with return on equity. It is also concluded that selected manufacturing firms have high day's payable because of liberal credit policy. Final conclusion was that there is impact on working capital on profitability at different phases of economics.

Josephine Daisy (2016) evaluated working capital management of Narsimha Mills Pvt. Ltd for the period of 2004-2005 to 2014- 2015. Researcher has selected nine ratios of working capital and measure the effect on profitability. Quick ratio and current assets ratio have positive correlation with profitability. Correlation between quick ratio and return on investment found insignificant whereas current assets ratio and return on investment ratio was also insignificant at 5% level of significance. Other ratio like current ratio, working capital ratio, current assets to sales ratio, working capital turnover ratio, debtor turnover ratio and inventory turnover ratio have been negatively correlated with profitability.

Makurdi Benue (2016) worked on effect of working capital on the performance of Nigerian food and beverage industries for the period of 2004 to 2013. The study revealed that a positive relation between current ratio, quick ratio and return on assets has been established. This relation has been significant at 5% level of significance.

Jignesh shah (2015) worked on working capital management of Cadila HealthCare Ltd.for the period of 2009-2010 to 013-2014. The result of the research indicates that working capital of the selected company depends on the viability and need of the management. Liquidity ratio of the firm shows very good position of the firm.

Agrim Aggarwali and Rahul Chaudhary (2015) worked on effect of working capital on profitability of listed firm in BSE for the period of 2010 to 2014. The result of the research shows that cash conversion cycle has negative but highly significant relationship with profitability. Average inventory has also negative and significant relationship with profitability. Creditors' payment period has positive relationship with profitability whereas last variable debtor collections period has negative and significant relationship with profitability.

M.Sangeetha (2015) studied on determinants of working capital of Indian pharmaceutical industry for the period of 2007 to 2013. The research result that accounts receivable days, current liabilities to total assets, current assets turnover and working capital turnover are the determinates of return on total assets.

Ville Vikkala (2015) did research on effect of working capital on profitability in computer and electrical equipment industry for the period of 1990 to 2013 selected 16481 USA firm. The researched used regression model to study the effect working capital on profitability. Cash conversion cycle has negative effect on return on equity and stock return. It is also proved that increased level of working capital reduces the value of the company hence to shareholders. It is also resulted that shareholders are interested in short term returns which are only possible by maintaining a level of working capital throughout the year.

Vandana Kotak and Abhaya Kumar Panda (2015) worked on impact of working capital and liquidity and profitability of Indian cotton industry for the period of 2002 to 2007. The study reveals that profitability and liquidity have positive relationship up to certain level and beyond that level there is inverse relationship between liquidity and profitability.

Gitika Mayank (2014) worked on impact of working capital management on profitability in automobile firms for the period of 2008 to 2013. The result of research is that working capital turnover ratio and inventory turnover has positive effect on return on assets. Receivable turnover has a negative effect on return on assets. Other working capital related ratios have a very thin relationship.

D.Maharani & C.Vellaichay (2014) worked on effect of working capital management on profitability of KRIBHCO Ltd. for the period of 2008-2009 to 2012-2013. Researcher concluded that some fluctuations are seen in working capital during the study period. Study also concluded that profitability can be improved by maintaining a level of working capital.

Abdul Ghafoor Awan and Pervaiz Shahid et. All (2014) examined the impact of working capital management on profitability of Pakistani cement sector for the period 3009 to 2013. The research resulted that cash conversion cycle, current ratio and inventory turnover in days are negatively correlated with return on equity. Whereas working capital turnover, quick ratio, average payment period, size of firms fund distributed by government in public sector are positively correlated. Current ratio is insignificant with return on equity.

Mehta Anupam (2014) worked on relationship between working capital management and profitability of UAE market for the period of 2004 to 2007. The study found that there is a negative but significant relationship between profitability and cash conversion cycle. Whereas other independent variables like payables and inventories period have also significant relationship with profitability.

Kim Chi Phan (2013) worked on factors affecting to profitability a case study consumer products companies in Thailand for the period of 2008 to 2012. The study explains that quick ratio and debt to equity ratio have negative effect on return on equity whereas sale growth has positive impact on return on equity.

Hassan Aftab Qazi, Syed Muhmmad Amir Shah and Zaheer Abbas and Fanzeela (2011) researched on impact of working capital on profitability of firms for the period 2004 to 2009. The result of the research indicates that working capital management has positive effect on profitability.

Chary T. Satyanaraya and Ramanadh Kasturi (2011) worked on relationship between working capital and profitability for the period of 2003-2004 to 2007-2008. The result of research is the company follows conservative approach of working capital management. The major part of working capital is invested in inventory and debtors. Study also explains that there is negative correlation between working capital and profitability.

Mustafa Afeef (2011) worked on impact of working capital management on profitability in Pakistani small scale enterprise for the period of 2003-2008. Study revealed that working capital has perceptible impact on profitability.

Objectives of the Study

The Objectives of the Research Papers are as below:

- To study the profitability and working capital of selected pharmaceutical companies in India
- To establish empirical relationship between working capital and profitability of selected pharmaceutical companies in India
- To assess the effect of working capital management on profitability of selected pharmaceutical companies in India.

Methodology of the Study

Research paper titled "Empirical Analysis of Effect of working capital management on profitability: Evidence from listed Pharmaceutical companies in India" has been made by using data from financial statement of all five year of selected pharmaceutical firms. Secondary data were used. Time period of the study was five year from 2013-2014 to 2017-18. Convenient sampling method was used. Besides annual reports, capitaline, moneycontrol.com and ACE-equity database were used to collect the data**.** Analysis and interpretation of data have been carried out using the Statistical techniques such as descriptive statistics, correlation and multiple regressions using 14 version of STATA.

Hypothesis for Correlation

H_0: There is no significant correlation between working capital management and profitability of selected pharmaceutical companies

Hα: There is significant correlation between working capital management and profitability of selected pharmaceutical companies

Hypothesis for Regression

H_0: Working capital management has no significant effect on profitability of selected pharmaceutical companies.

Hα: Working capital management has significant effect on profitability of selected pharmaceutical companies

Analysis of Profitability and Working Capital Management of Selected Pharmaceutical Companies

Table 1: Descriptive Statistics

Variables	Minimum	Maximum	Mean	Std. Deviation	Variance	Skewness	Kurtosis
GPR	-15.20	44.63	15.12	14.68	215.58	-0.29	-0.11
NPR	-99.99	32.04	8.33	25.60	655.27	-3.41	13.94
ROCE	-3.57	49.54	16.48	13.76	189.25	0.80	0.31
OPR	-6.96	48.55	19.98	13.64	185.99	-0.33	0.01
ROTA	35.77	711.70	270.42	210.88	44470.94	1.20	0.13
RON	-38.18	47.01	12.55	16.36	267.58	-0.86	3.16
EPS	-13.66	113.62	39.74	36.36	1321.98	0.47	-0.69
CR	0.53	3.04	1.77	0.75	0.56	-0.24	-0.67
LR	0.55	2.90	1.68	0.68	0.46	0.11	-1.14
DTR	2.16	7.11	3.89	1.42	2.01	0.57	-0.70
WTR	-4.21	17.39	3.12	3.47	12.04	2.75	13.04
ITR	3.11	6.57	4.66	1.09	1.19	0.19	-1.39

Source: moneycontrol.com

Table 1 indicates the descriptive statistics of selected variables of profitability and working capital management. Industry average of gross profit ratio was 15.12 percent with the range of -15.20% to 44.63% during the study period. Gross profit ratio shows very high fluctuations in the trend. Net profit ratio was 8.33 % with Standard deviation of 25.60% and variance of 655.27%. Range of net profit ratio shows high fluctuating trend during the study period. Return on capital employed was 16.48% during the study period. Return on capital employed shows that profitability is very good. Standard deviation and variance were 13.64% and 185.99% respectively with a mean of 19.98%. Trend of Operating profit is fluctuating during the study period. Return on net-worth was minimum -6.96 % and maximum 47.01 % with average of 12.55%. Return on net-worth shows that pharmaceutical industry is able to create value for shareholders. Average Earning per share was 39.74% with skewness and kurtosis of 0.47% and -0.69% which shows fluctuating trend. But shareholders are getting good returns on their investment from selected pharmaceutical industry. Average current ratio was 1.77 with standard deviation of 0.75% which shows liquidity position of pharmaceutical industry does not meet the standard of 2:1. However it is not bad. Mean of Liquidity ratio was 1.68 with range of 0.55 and 2.90 during the study period. Liquidity ratio shows that cash or equivalent cash assets position is good. Moreover, liquidity ratio meets the standard of 1:1. Debtor turnover ratio ranged between 2.16 times and 7.11 times with an average of 3.89 times. Debtor turnover ratio shows very good collection efficiency. Working capital turnover ratio shows highly fluctuating trends with average of 3.1 times. Mean of Inventory turnover ratio was 4.66 times with standard deviation of 1.09% which shows efficiency in utilisation of inventory of pharmaceutical industry. Inventory of pharmaceutical industry is very precious and costly which needs due attention.

Table 2: Correlation Matrix

	GPR	NPR	ROCE	OPR	RON	EPS	CR	LR	DTR	WTR	ITR
GPR	1										
NPR	0.672^{**}	1									
ROCE	0.937^{**}	0.613^{**}	1								
OPR	0.994^{**}	0.701^{**}	0.920^{**}	1							
RON	0.860^{**}	0.898^{**}	0.869^{**}	0.874^{**}	1						
EPS	0.736^{**}	0.594^{**}	0.640^{**}	0.768^{**}	0.690^{**}	1					
CR	0.731^{**}	0.578^{**}	0.631^{**}	0.708^{**}	0.580^{**}	0.462^{*}	1				
LR	0.533^{**}	0.436^{*}	0.381	0.532^{**}	0.378	0.685^{**}	0.743^{**}	1			
DTR	-0.207	-0.223	-0.095	-0.226	-0.161	-0.480^{*}	-0.185	-0.578^{**}	1		
WTR	-0.142	-0.066	-0.065	-0.160	-0.053	-0.173	-0.246	-0.312	-0.044	1	
ITR	0.694^{**}	0.543^{**}	0.689^{**}	0.700^{**}	0.642^{**}	0.851^{**}	0.600^{**}	0.776^{**}	-0.517^{**}	-0.207	1
**. Correlation is significant at the 0.01 level (2-tailed).											
*. Correlation is significant at the 0.05 level (2-tailed).											

Table 2 shows of correlation matrix of selected variables of profitability and working capital management. Correlation matrix is calculated for examining the correlation between profitability and working capital management. Variable for profitability are gross profit ratio, Net profit ratio, Return on capital employed, operating profit, return on net-worth and earning per share. Variables for working capital are current ratio, liquidity ratio, debtor turnover ratio, working capital turnover ratio and inventory turnover ratio. Main variable of profitability is return on capital employed which has positive correlation with current ratio (0.631^{**}) and inventory turnover ratio (0.689^{**}). This relationship is also statistically significant at 1% level of significance. Profitability has negative relationship with debtor turnover ratio (-0.095) and working capital turnover ratio (-0.065) which is statistically insignificant. Liquidity ratio has a positive insignificant relationship with ROCE. Gross profit ratio and current ratio (0.731^{**}), liquidity ratio (0.533^{**}) and inventory turnover ratio (0.694^{**}) have significant positive relationship, whereas, Gross profit ratio has negative and insignificant relationship with debtor turnover ratio (-0.207) and working capital turnover ratio (0.694^{**}). Net profit ratio and operating profit ratio have positive and significant correlation with current ratio, liquidity ratio and inventory turnover ratio. Net profit ratio and operating profit ratio have negative and insignificant correlation with debtor turnover ratio and working capital turnover ratio. Current ratio (0.580^{**}), liquidity ratio (0.378) and inventory turnover ratio (0.642^{**}) have positive correlation with return on net-worth. However current ratio and inventory turnover ratio have been significant to return on net-worth. Debtor turnover ratio and working capital turnover ratio are negatively correlated with return on net worth. The same is the case with earning per share. In short, three variable of working capital current ratio, liquidity ratio and inventory turnover ratio have significant correlation with the variables of profitability ROCE, RNW, GPR, NPR and EPS variables of working capital debtor turnover ratio and working capital turnover ratio are negatively correlated with profitability variables return on capital employed, return on net-worth, Earning per share, gross profit ratio, net profit ratio and operating profit ratio.

Regression Analysis

Linear regression model constructed as follows:

ROCE	**α+**	**+ β_1(CR)**	**+β_2(LR)**	**+β_3(DTR)**	**+ β_4(WTR)**	**+ β_5(ITR)**	+Ei

ROCE	Return on capital employed
CR	Current ratio
LR	Liquidity ratio
DTR	Debtor turnover ratio
WTR	Working capital turnover ratio
ITR	Inventory turnover ratio
Ei	Error term

The researcher has used pooled ordinary least square (OLS), Fixed effect and Random effect models. Table 3 indicates the effect of working capital variable on profitability. To examine the effect of working capital variables on return on capital employed, three models Pooled OLS, fixed effect and random effect models were run. Pooled OLS model is used when companies are of homogenous nature, whereas fixed effect model and random effect model are used when companies are of heterogeneous nature. It is seen very clearly from table-3 that Pooled OLS and Random effect model have similar result. Therefore, researcher has selected random effect model to examine the robustness with fixed effect model.

Table 3: Regression Analysis

Variables	**Pooled OLS**	**Fixed Effect**	**Random Effect**
CR	12.9586 (0.001) *	-2.3449(0.725)	12.9586(0.000)*
LR	-16.9857 (0.004)*	-3.1225 (0.677)	-16.9857 (0.001)*
DTR	0.4050(0.798)	-0.3832(0.839)	0.40498 (0.795)
WTR	0.1757 (0.720)	0.1265(0.768)	0.17569 (0.716)
ITR	12.0117 (0.000) *	14.004(0.000)*	12.0116 (0.000)*
Constant	-36.0282 (0.011)	-38.2747(0.014)	-36.0281(0.005)
R^2	0.7708	0.4397	0.7708
Prob > F =	0.0000	0.0017	0.0000
Number of observations	25	25	25

Table 3 explains Random effect model of dependent and independent variables. Current ratio has positive and significant effect on return on capital employed, whereas liquidity ratio has negative and significant effect on return on capital employed. Besides this, inventory turnover ratio has also positive and significant effect on return on capital employed. Other independent variables like debtor turnover ratio and working capital turnover ratio have positive and statistically insignificant effect on return on capital employed. R^2 is 0.7708 which means that all independent variables combine caused 77.08% variations in return on capital employed. F test shows significant result (0.000).

Conclusion

In this research paper, researcher has examined correlation among the variables of working capital and profitability. There are six variables of profitability like gross profit ratio, Net profit ratio, operating profit ratio, return on capital employed, return on net-worth and earning per share, whereas there are five variables of working capital management like current ratio, liquidity ratio, debtor turnover ratio, working capital turnover ratio and inventory turnover ratio. Working capital management ratio current ratio, liquidity ratio and inventory turnover ratio are positively and significantly correlated with all profitability ratios. Two ratios of working capital management like debtor turnover and working capital turnover ratio are negatively correlated with all ratios of profitability. But the relationship is statistically insignificant. Random effect model shows that current ratio, liquidity ratio and inventory turnover ratio have significant effect on Return on capital employed. Debtor turnover ratio and working capital turnover ratio have insignificant effect on return on capital employed.

References

- Abdul Ghafoor Awan and Pervaiz Shahid et. All (2014), " Impact of working capital management on profitability of cement sector in Pakistan", International Journal of Business and Management Review, VOL.-2,No.4, Pages:1-20 http://www.eajournals.org/wp-content/uploads/Impact-of-Working-Capital-Management-on-Profitability-of-Cement-Sector-in-Pakistan.pdf
- Agrim Aggarwali and Rahul Chaudhary (2015)," Effect of Working Capital Management on the Profitability of Indian Firms, IOSR Journal of Business and Management, Volume 17, Issue 8, Pages:34-43 www.iosrjournals.org
- Ahm Yeaseen Chowdhury, Mohmmad Zahedul Alam, Sabiha Sultana and Md.Kaysher Hamid(2018), "Impact of Working Capital Management on Profitability: A Case Study on Pharmaceutical Companies of Bangladesh, Journal of Economics, Business and Management, Vol. 6, No. 1, Pages:27-34 http://www.joebm.com/vol6/546-JB80.pdf
- Aravind M (2016), "Influence of Working Capital Metrics on Profitability: A Critical Examination on Indian Manufacturing Sector" Kelaniya Journal of Management , Vol. 5 No. 1, Page No. 58-80 https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&ved=2ahUKEwj35bzSnJrgAhUCknAKHXdeCF4QFjAAegQIChAC&url=https%3A%2F%2Fkjm.sljol.info%2Farticles%2F10.4038%2Fkjm.v5i1.7506%2Fgalley%2F5794%2Fdownload%2F&usg=AOvVaw121aMJN13jn_zAEERWdNOh
- Ashok Kumar Panigrahi (2012) Impact of Working Capital Management on Profitability –A Case Study of ACC Ltd. Asian J. Management 3(4) Page No.;210 -218 https://www.researchgate.net/publication/323394127_Impact_of_Working_Capital_Management_on_Profitability_A_Case_Study_of_ACC_Ltd
- Chary T. Satyanaraya and Ramanadh Kasturi (2011), "Relationship between Working Capital And Profitability - A Statistical Approach, Volume 1, Issue 7, Pages No. 1 – 16 http://euroasiapub.org/wp-content/uploads/2016/09/1-177.pdf
- D.Maharani & C.Vellaichay (2014), "Impact of Working Capital Management On Profitability Of KRIBHCO LTD." Vol. 2, No. 4, Pages47-50.https://www.researchgate.net/publication/282647135_IMPACT_OF_WORKING_CAPITAL_MANAGEMENT_ON_PROFITABILITY_OF_KRIBHCO_LTD
- G. Ramnaiah and B.Vidyavathi (2016) A Study on Impact of Components of Working Capital on Profitability: A Case Study of Ambuja Cements Limited, International Journal of Management and Commerce Innovations, Vol. 4, Issue 1, pp: (588-595) www.researchpublish.com
- Gitika Mayank(2014), "Impact of Working Capital Management Practices of Automobile Firms on their Profitability: An Example of Mahindra & Mahindra Ltd." Pacific Business Review International, Volume 6, Issue 8, page-1 to 8 http://www.pbr.co.in/2014/2014_month/feb/1.pdf
- Gowri R , "A Study on the Impact of Working Capital Management on Profitability With Reference To Sugar Companies in Tamil Nadu" PP 17-22 http://www.iosrjournals.org/iosr-jhss/papers/ICIRFSS/4.17-22.pdf
- Hassan Aftab Qazi, Syed Muhmmad Amir Shah and Zaheer Abbas and Fanzeela(2011),"Impact of working capital on firms' profitability, African Journal of Business Management, Vol. 5(27), pp. 11005-11010 Available online at http://www.academicjournals.org/AJBM
- Jignesh shah (2015), "Working Capital Management of Cadila Healthcare Ltd" RESEARCH HUB – International Multidisciplinary Research Journal (RHIMRJ) Volume-2, Issue-2, Page:1-7. Available online at: www.rhimrj.com
- Josephine Daisy (2016), "An Evaluation of Working Capital Management: An Overview" international Journal of Advanced Scientific Research & Development, Vol. 03, Iss. 03,Pages No.:11-17 http://www.ijasrd.org/in
- Kim Chi Phan (2013), Factors Affecting Profitability (Case of Consumer Products Companies of Thailand), International Conference on Innovations in Engineering and Technology (ICIET'2013), Dec. 25-26, page: 163-166. http://iieng.org/images/proceedings_pdf/2893E1213626.pdf

- M.Sangeetha (2015),"Determinants Of Working Capital-A Study With Special Reference to Indian Pharmaceutical Industry", International Journal of Marketing & Financial Management, Volume 3, Issue 02, pp 46-51https://arseam.com/sites/default/files/published-papers/paper-7%20%20issue-2%20%20Full%20paper%20%20%20page%204651%20%20M%20SANGEETHA%20%20%20%20%20%20Feb%20-2015.pdf
- Makurdi Benue (2016), Effect of Working Capital Management on the Performance of Food and Beverage Industries in Nigeria, Arabian Journal of Business and Management Review, Volume 6 Issue 5, https://www.omicsonline.org/open-access/effect-of-working-capital-management-on-the-performance-of-food-andbeverage-industries-in-nigeria-2223-5833-1000244.pdf
- Mehta Anupam (2014), Working Capital Management and Profitability Relationship-Evidences from Emerging Markets of UAE, International Journal of Management Excellence, Volume 2 No. 3, Page:195-202. https://www.researchgate.net/publication/276865048_ Working_Capital_ Management_and_Profitability_Relationship-Evidences_from_Emerging_Markets_of_UAE
- Mubashir Hassan Qurashi (2017), "Impact of Working Capital on the Profitability of UK Pharmaceuticals and Biotechnology FTSE All Share Index Firms" Journal of Quantitative Methods, Vol.-1 Page: 58-78. https://www.researchgate.net/publication/319716381
- Mustafa Afeef (2011), “Analyzing the Impact of Working Capital Management on the Profitability of SME’s in Pakistan” International Journal of Business and Social Science, Vol. 2 No. 22, page N.173-183. https://www.researchgate.net/ publication/322160850_ THE_EFFECT_OF_ WORKING_CAPITAL_MANAGEMENT_ON_SMEs
- Mutlu Basaran Ozturk and Gizem Vergili;The Effects of Working Capital Management on Mining Firm’s Profitability: Empirical Evidence from an Emerging Market, Financial Management from an Emerging Market Perspective, Open access peer-reviewed Edited Volume, Page :198-204 https://cdn.intechopen.com/pdfs/57775.pdf
- P.Kalaivani and K.joshi (2017), “Impact of Working Capital Management on Profitability of the Select Car Manufacturing Companies in India, Volume 116 No. 24,Pages No.13-21 https://acadpubl.eu/jsi/2017-116-23-24/articles/24/2.pdf
- Prabhu C Basarkod (2018), “Working Capital Management In JSW Company Limited: A Study” International Research Journal of Management and Commerce, Volume 5, Issue 4, Page -331-3342, http://aarf.asia/management2.php?p=Volume5,Issue4,April,2018
- T.A.N.R. Jayarathne (2014), “Impact of Working Capital Management on Profitability: Evidence From Listed Companies in Sri Lanka”, Reshaping Management and Economic Thinking through Integrating Eco-Friendly and Ethical Practices Proceedings of the 3rd International Conference on Management and Economics,Page:26-27. http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.703.5066&rep=rep1&type=pdf
- Vandana Kotak and Abhaya Kumar Panda (2015), "Impact Of Working Capital On Liquidity And Profitability of Indian Cotton Industry" Abhinav National Monthly Refereed Journal of Research in Commerce & Management, Volume 4, Issue 3Page:97-106. https://abhinavjournal.com/journal/index.php/ISSN-2277-1166/article/viewFile/603/pdf_146
- Ville Vikkala (15), “The Effect of Working Capital on Profitability in Computer and Electrical Equipment Industry”, Master degree thesis, Department of Accounting, Aalto University, School of Business, pages:1-70.https://aaltodoc.aalto.fi/handle/123456789/19749
- Yakub, Ibrahim Nandom et. All (2017), "The Impact Of Working Capital Management On Corporate Performance: Evidence From Listed Non financial Firms In Ghana", European Journal of Accounting, Auditing and Finance Research, Vol.5 No.3, PP.68 - 75http://www.eajournals.org/wp-content/uploads/The-Impact-of-Working-Capital-Management-on-Corporate-Performance-Evidence-from-Listed-Non-Financial-Firms-in-Ghana.pdf

❑❑❑