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Research Paper

Working Capital Management And Profitability: A Literature Review

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ABSTRACT: *Working capital plays a vital role in a firm's profitability as it is one of the important decisions of financial management. Based on different research papers, it has been seen that there is a negative relationship between working capital management and profitability. Efficient management of working capital will generate cash which results in profitability and reduce risks. The study aims to review the different research papers and develop hypotheses as per the conclusions. The research papers were selected randomly according to more than 50 citations from reputable journals. The review study concluded that working capital management affects profitability and also signifies the importance of working capital management through significant relationships. This study will be helpful for further research on the respective area because it reduces the time for further research work as it will get the most cited work on a single paper.*

Keywords: *Working Capital Management And Profitability*

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I. INTRODUCTION

In this new-fangled time, working capital management uplift as a most important part of the running of the business. Working capital is like the blood of every enterprise and its management is a nerve function of the business. Without proper blood circulation in the body, it will face various diseases, likewise, proper circulation of working capital is vital for the proper and trouble-free functioning of an organization. Working capital is the capital that is required to finance current assets or frequent activities of the business. If working capital is not managed properly, this manifests the situation of inadequate working capital (paucity and imprudent of working capital) which leads to the importance of optimum working capital management. Because both the paucity of working capital and the imprudent working capital positions are dangerous for any enterprise. Hence, this position highlights that an enterprise should have adequate working capital to run its operations. Intrinsically, working capital is needed because of the existence of the operating cycle. All enterprises should focus on the management of working capital with its operating cycle components which consist of the inventor, accounts receivables, accounts payable, and cash). Since these components are swayed directly by operational management.

Tersely, paucity and imprudent of working capital imply improper utilization of resources of the business. Hence, conserving adequate working capital is not just foremost in the short-term but in addition, ample liquidity must be maintained for the sake to corroborate the existence of the business in the long term as well. Ergo, it is the job of the finance manager to estimate the requisites of working capital gingerly and mold the optimum level of investment in working capital.

II. COMPONENTS OF WORKING CAPITAL

16 out of 20(80%) research papers identify the following working capital components as an independent variable:

$$\text{Inventory turnover period (in days)} = \frac{\text{Inventory}}{\text{Cost of Goods Sold}} \times 365$$

$$\text{Average Collection Period (in days)} = \frac{\text{Accounts receivables}}{\text{Sales}} \times 365$$

Average Payment period (in days)=Accounts payable× 365
Purchases
Cash Conversion period (in days)=
Accounts Conversion Period + Inventory Conversion Period-
Accounts Payable Period

As discussed above around 80% of selected research papers used working capital ratios as an independent variable. From the theoretical point of view, these variables affect the profitability of the firm. The main focus of the present review of the papers is on working capital management components as independent variables which are also known as operating cycle components. Others Ramachandran and Janakiraman (2009) and Mohammad and chin (2016) used Bhattacharya (1997) model rather than working capital ratios.

III. PROFITABILITY

Profitability has been used as a dependent variable in our selected research papers. Profitability is the most used measure to assess the ability of the business to generate earnings. The following measures used as profitability:
Gross Profit = Revenue – the Cost of Production
Return On Assets = Net Income / Total assets
Return on Equity = Net Income / Shareholder's equity
Return on Capital Employed= EBIT(Earnings before interest and taxes) / Capital Employed
Earnings before interest and taxes (EBIT) = Revenue – Cost of goods sold + operating expenses
These are all measures used by selected research papers as dependent variables. Most of the researchers used Return on Assets (ROA) and Net Operating profit (NOP) /Gross Operating Profit (GOP) as a Profitability measure.

IV. METHODOLOGY

The traditional review method is used for conducting the review of different literature. 20 randomly selected research papers have been used for the study which are accredited in international journals and have more than 50 citations. The steps or objectives taken for the study are:
1. Consider the relevant research papers that have more than 50 citations.
2. Reviewing the contents of these papers encompassing research objectives, research methodology, and research conclusions.
3. Comparing the selected research papers with others.
4. After comparing the research results it will ultimately give birth to a hypothesis that can be used in further research for test purposes.

V. REVIEW OF LITERATURE

The research papers reviewed in this study amounted to 20 from 2003 through 2016. All research papers discussed the relationship between working capital management and profitability. Out of 20, 17 were using the working capital management component as an independent variable,and 3 were using Bhattacharya, 1997 model components. Citation-based reviews are as follows:

1.	Marc Deloof, 2003 Citation – 3108 Journal name – journal of business finance and Accounting 30(3-4)	Does working capital management affect the profitability of Belgian Firms?	There is a negative relationship between the cash conversion cycle, inventory cycle, number of accounts receivables, payables, and profitability. - In the case of control variables positive relationship between firm size, sales growth, and fixed financial assets, and there is a negative relationship between financial debt and profitability
2.	LoannisLazaridis, and DimitrosTryfonidis (2006) citations-1647 journal name – Journal of financial management and Analysis 19(1)	Relationship between working capital management and Profitability	In the case of independent variables, all showed a negative relationship with profitability. - in the case of control variables positive relationship between fixed financial assets, company size, and profitability and a negative between financial debt and profitability.
3.	Amit k Sharma and Satish Kumar (2011) Citation- 597 Journal- Global business	Effects of Working Capital Management on Firm's Profitability: Empirical evidence from	-cash conversion cycle showed a positive relationship - inventory period, the number of accounts receivables, and accounts payable showed a negative relationship with profitability. - all control variables reflect the negative relationship with

	review 12(1)159-173	India.	profitability
4.	Greg Filbeck and Thomsm Krueger (2005) Citation -540 Journal – American Journal of Business, 2005	An Analysis of Working Capital Management Results across Industries.	- There is a significant difference exists between industries across time this respect to working capital measure. -working capital varies across time indicating that working capital management ratios are changing over time for the firms sampled.
5.	Nor Edi, AzharBinti Mohamad and NorziaBintiMohdSaad (2010) Citation- 464 Journal – International Journal of Business and Management 5(11), 140,2010	Working Capital Management: The Effect of market valuation and Profitability in Malaysia	Cash conversion cycle, current ratio, current assets to total assets ratio, and current liabilities to total assets illustrate a significant negative relationship with profitability whereas debt ratio is negatively significant with Return on Assets only but insignificant with Return on Invested Capital while positively significant with Tobin Q.
6.	Abdul Raheman, TatalAfza, Abdul Quyyam, Mahmood Ahmed, and Bodla(2010) Citation- 452 Journal- International Research Journal of Finance and Economics 47(1), 156-169	Working Capital Management and corporate performance of the Manufacturing Sector in Pakistan.	Inventory turnover period, cash conversion cycle, net credit cycle, and accounts receivables showed a negative relationship with profitability. - accounts payable showed a positive relationship with profitability -in the case of control variables negative relationship between the financial debt ratio, current liabilities to debt ratio, and profitability and a positive with the size of the company, and the current ratio.
7.	Vedavinayag and Ganesan, 2007 Citation – 335 Journal- Rivier Academic Journal 3(2), 1-10	An Analysis of Working Capital Management Efficiency in the Telecommunication Equipment Industry	Days of working capital showed negative relation with income to total assets (IA), income to sales (IS), and Cash conversion efficiency. -Days of Inventory outstanding and Days of Payable outstanding reflect significantly negative relations with IS and IA. -Days of sales outstanding showed insignificant relation with IS and IA.
8.	Ntuiponsian, Kiemichrispina, GwatakoTago, Halim Mkiibi, 2014 Citation -298 Journal- International Journal of Economics, Finance, and Management Sciences 2(6), 347-355	The Effect of Working Capital Management on Profitability.	-cash conversion cycle and accounts payable period reflect positive significance with profitability. -account conversion period and inventory conversion period revealed a significant negative relationship with profitability -Leverage and current ratio showed a significant positive relation with profitability and size of the firm and sales growth conveyed a negative relationship.
9.	SushmaVishnani, Bhupesh Kr Shah, 2007 Citation -294 Journal- Global Business Review 8(2), 267-281	Impact of Working Capital Management Policies on Corporate Performance__ An Empirical Study	-There is a negative relationship between the inventory conversion period, days of the conversion period, net working capital, and profitability. -creditor's payment period and current ratio showed a positive relationship with profitability.
10.	Richard Kofi akoto, DadsonAwanyon-victor, Peter LawerAngmor, 2013 Cited by 274 Journal- Journal of Economics and International Finance 5(9), 373-379.	Working capital management and profitability: Evidence from Ghanaian listed Manufacturing firms	Accounts receivables in days showed negative and significant results with return on equity (ROE). -Accounts payables in days showed positive but insignificant results -positive significant relation with cash conversion cycle -current ratio and ROE showed a positive and significant relation -positive relation with firm size -current assets turnover showed significant relation with ROE.
11.	Mohammed Alipour, 2011 Journal- world applied science Cited by 294 journal 12(7), 1093-1099.	Working capital management and corporate profitability: Evidence from Iran	There is a significant negative relationship between profitability and the Cash conversion cycle, inventory conversion period, and accounts conversion period. -positive significance with Accounts payable period.
12.	Santanukr Ghosh, and Santi Gopal maji, 2004 Cited by 232 Journal- Management Accountant Calcutta-39 (369-372).	Working Capital Management Efficiency: A study on the India cement industry.	Indian cement industry did not perform remarkably well during the period and Industries average efficiency index was greater than one in six years out of ten years during the study period.
13.	AzhagaianRamachanda and Muraligharanjanakiraman, 2009 Cited by 215 Journal- Managing Global Transitions International Research Journal 7(1)	The Relationship between Working Capital Management Efficiency and EBIT.	-Indian paper firms did remarkably well during the period. -industry overall efficiency index was > 1in 3 years out of 9 years. -it is found that a negative relationship between the cash conversion cycle and EBIT -negative relation with accounts payable -positive with accounts receivables

14.	Hong Yubching, AryronNovazzi and Fabio Gerab,2011 Cited by 163 Journal- journal of global business and Economics 3(1), 74-86	Relationship between Working Capital Management and Profitability in Brazilian listed companies.	ROE(return on equity) is not discussed here because the results are not significant. -ROS(return on sales) in the case of working capital intensive and fixed capital intensive. -Debt ratio' days of receivables and days of working capital were excluded only cash conversion efficiency and days of inventory has shown an effect. -ROA(return on assets) The same effect occurred where the day's inventory presented a negative impact. -In the case of ROS only days of working show impact. And in the case of ROA, only the debt ratio has shown a negative impact
15.	Sandy E Ogundipe, AbielaIdown, And O ogundipe, 2012 Cited- 157 Journal-World Academy of Science, Engineering, and Technology 61(1), 1196-1200	Working Capital Management Firms' Performance and market valuation in Nigeria.	-positive significant relation with Tobin Q and negative significant relation with ROA (return on assets) and insignificant with ROI (return on investments). -cash conversion cycle negative association with Tobin Q and ROA but positively insignificant with ROI -current liabilities to total assets showed negative with ROA but insignificant with Tobin Q and ROI -current assets to current liabilities and current assets to total assets shows no significant relation
16.	Hasan AganKaraduman, HalilEmreAkbas, Arzuozsozgun and Salin Durer, 2010 Cited by 147 Journal- international Journal of Economics and Finance Studies 2(2),47-54	Effect of Working Capital Management on Profitability: the case for selected companies in Istanbul Stock Exchange (2005-2008)	-There is a significant negative relation between ROA (return on assets) and Accounts receivables, accounts payable, inventory, and cash conversion cycle. And in the case of control variables Company size has a positive effect on profitability : -negative relation with a debt ratio -high value of GDP growth rate
17.	Michael Nwidobie Barine,2012 Cited by 100 Journal- journal of applied finance and Banking 2(2),215	Working Capital Management Efficiency and corporate profitability: Evidence from quoted firms in Nigeria.	-return on gross working capital is less than the cost of gross working capital. -there are negative results from the working capital returns and the cost equation indicates low levels of returns to shareholders.
18.	Farrah WahiedaKasiran, NorediAzhar Mohamad, Othman chin , 2016 Cited by 79 Journal - Procedia Economic and Finance3(5),297-303	Working Capital Management Efficiency: A study on the small-medium enterprise in Malaysia.	-in the case of the performance index only 1 out of 24 companies. -utilization index is good; because most of the companies have >1 index value. -less efficient companies in the case of the efficiency index
19.	SayedaTahminaQuayyam, 2011 Cited by 64 Journal- Journal of Business and Technology Dhaka 6(1), 37-47	Effects of Working capital management and Liquidity: Evidence from the Cement Industry of Bangladesh	The results found a significant negative relationship with profitability. -inventory turnover reflects significant positive relation with profitability. -only the cash conversion cycle showed a negative relationship with both the dependent variables.
20.	ChistiKhalia Ashraf,2012 Cited by63 Journal- Journal of Accounting and Management 2(3).	The relationship between Working Capital Efficiency and Profitability.	inventory turnover period and accounts receivables showed negative relation with net operating profit. -average accounts payable showed a positive relation with NOP(net operating profit). -negative relation between cash conversion cycle and profitability. -current ratio and debt ratio showed insignificant relation with profitability.

VI. CONCLUSION AND SUGGESTIONS

Based on twenty research papers from 2003 to 2016 and having more than 50 citations, it is concluded that working capital management plays an important role in the profitability of the firm. The study mainly focused on working capital on management components (i.e. inventory conversion period, receivables conversion period, cash conversion cycle, and accounts payable period) and profitability. Out of 20 research papers, 4 were not using the working capital ratio method for taking variables 3 were using the efficiency index model Bhattacharya (1997), and the last one used cost and return on working capital. And rest of the sixteen used the working capital ratio as an independent variable. In the case of profitability, different researchers used Return on assets, Gross Operating Profit, Net operating profit, Return on invested capital, and Return On Equity as dependent variables in their research paper, and all profitability measures showed a significant relationship with working capital management except Return on Equity Ching, Nozazi and Gerab (2011) which revealed that results are not significant with all independent variables. Therefore, it is found that there is a significant relationship between working capital management and profitability. Lastly, the researcher used these results to develop hypotheses for further studies that future researchers used results as hypotheses and tested accordingly. The following hypotheses were developed by the researcher:

H1: There is a negative association between the cash conversion cycle and profitability.

Supported Research Papers:

Most of the research papers support this statement. Deloof(2003), Lazaridis and Trifonidis(2006), Raheman and Afza (2010), Ganeshan(2007), Mohammad and Saad (2010), Alipour(2011) in terms of dependent variables return on sales. Ching, Novazzi And Gerab (2011), Ogundipe(2012), Karaduma,Akbas,Ozsozyun and Dure(2010), Quayyam(2011), Ashar(2012), Akoto,Victor and Angor(2013).

H2: There is a negative relationship between the inventory turnover period and profitability.

Supported Research Papers:

Deloof (2003), Lazaridis, and Tryfonidis (2006) both were showing a negative but insignificant relationship. Sharma and Kumar (2011), Raheman and Afza (2010), Ganeshan (2007), Alipour (2011), Ching, Novazzi and Gerab (2011), Karaduman, akbal, Ozusozgun and Durre (2010) and Ashraf (2012).

H3: There is a negative relationship between accounts conversion period/ accounts receivables and profitability.

Supported Research Papers

Deloof (2003), Lazardis and Trifondis (2006), Sharma and Kumar (2011), Ching, Novazzi and Gerab (2011) but insignificant. Karaduzan, Akbas, Ozsozyun and Dure (2019), Ashraf (2012), Akoto, Victor and Angmor (2013).

H4: There is a relationship between accounts payment period and profitability.

Because 50% of selected research papers reflect a positive relationship and 50% showed a negative relationship with profitability. So, we concluded that there is a relationship between accounts payment period and profitability irrespective to reflect the positive or negative relationship.

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