IOSR Journal of Business and Management (IOSR-JBM)
e-ISSN: 2278-487X, p-ISSN: 2319-7668. Volume 24, Issue 7. Ser. IV (July. 2022), PP 60-69
www.iosrjournals.org

Working Capital Management and Financial Indicators: A Literature Review

Dr. Madhu Bala
Associate professor
Bhagini Nivedita College, University of Delhi

Abstract: *As necessitated by the dearth of literature review on the impact of working capital management (WCM) on financial indicators, this paper intends to thoroughly review the extant literature on the subject, and summarizes the findings to provide insights for future research on the issue. By synthesizing exclusion criteria, the 40 research studies have been identified for "systematic literature review"; and the embedded trends or patterns of literature are presented through figures and tables. A period of 20 years from 2003-22 has been selected, to extract research papers from Google Scholar, the online data house. The extensive review has revealed the existence of diverse and equivocal outcomes on the link between WCM and financial performance; ranging from positive, negative, mixed or non-linear. It has been observed that the maximum number of studies have relied upon secondary data, inclined towards sector-specific research, dominated by regression analysis as statistical tool, employed accounting-based measures of financial performance, and carried out in foreign countries. It implies that additional research efforts are required to expedite the convergence in the understanding of the relationship, and broaden the area of literature on the subject. The future researchers may pilot more research efforts in Indian context; by incorporating market-based measures of financial performance, like Tobin Q. The present review paper being the first of its kind, carry significance for future researchers, academicians, corporate managers, policymakers, and others who are concerned with synchronizing the relationship on core elements; and support research on the issue.*

Keywords: *Financial Indicators, Management, Researcher's Guide, Systematic Literature Review, Working Capital*

Date of Submission: 08-07-2022 Date of Acceptance: 22-07-2022

I. Introduction

Working capital (WC) is the life line of any business, and so the significance of its management. It is the availability of funds to meet day-to-day short-term commercial needs of business; and measured by the difference between current assets and current liabilities. Being the indicator of operational efficiency of business, it is associated with the financial health of enterprise. Its positive value signifies that firm has potential to pay its creditors, and meet regular expenses.

The need of WC is determined by a number of factors, such as, nature of business, cash or operating cycle, production and sales activities, credit policy, growth and expansion plans, and dividend policy. But, the cash conversion cycle (CCC) seems to be the most significant one. It may be described as the time required to convert the working capital in to cash. It expresses the length of time in number of days which an entity needs to sell its stock, collect receivables, and pay suppliers without suffering the burden of penalties. The length of CCC varies across companies. Baños-Caballero et al. (2010) analyzed that the small and medium firms with more cash flow and trade experience, set a target of relatively longer CCC length. The higher CCC implies the lower profitability because the business suffers from poor or mismanagement of inventory, declining sales, or increasing payables in terms of value or frequency**.** Dong & Su (2010) exhibited that there is an inverse relationship between increase in CCC and financial performance of an enterprise. Therefore, CCC provides another way of looking at operating efficiency of business, and efforts are made to lower this cycle to improve liquidity position because it bears a negative relationship with profitability (Alipour, 2011). The Gill et al. (2010) observed that financial managers may generate returns for business by appropriately handling the CCC.

Working capital management (WCM) affects both liquidity and profitability of the firm. Its optimum level may be achieved by trading off between these two parameters which has capability to create value for the firm (Bagchi et al., 2012). It ensures the enhancement in the potential earnings of enterprise by most efficient and effective use of current assets, and monitoring of current liabilities. The Alvarez & Vazquez (2021) established a statistically significant positive relationship between all components of WC and financial indicators; and emphasized that the increase in the dose of each variable of WCM may result in improving financial health of entity, as measured by return on assets and return on equity. The proper management

confirms adequate amount of cash-flow to discharge short-term obligations, and debt compulsions. It leads to minimize the cost of WC employed in the business which in turn, maximizes the return on short-term assets(Filbeck & Krueger, 2005).The efficiency of WCM may be ascertained by analyzing working capital cycle, and different ratios, such as, current ratio, collection ratio, inventory turnover ratio, and payable turnover ratio. The current ratio below one indicates that firm is facing trouble in clearing its short-term responsibilities; and may resort to loans, or selling its assets. A higher ratio of WC is not considered desirable, implying its poor management, and a resultant cost to entity.

The credit sales to clients affect the financial performance of the firm to a considerable extent. Deloof (2003) and Jakpar et al. (2017) detected a positive link between the lower collection period and the firm's profitability. It implies better management as it indicates the average number of days a company is able to convert its credit sales into cash. If more collection time period is allowed to customers, it leads to hike in sales; as this policy attracts new customers and helps in retaining the existing ones. They also get benefitted by trying and testing the product before making payment for the same. But, offering relatively higher trade credit entails more need of WC which tends to increase its opportunity cost. Samiloglu & Akgün (2016) claimed significant negative relationship between receivables ratio and financial indicators, namely, operating profit margin, net profit margin, return on equity, and return on asset.

The inventory turnover ratio divulges how fast a company's inventory is transformed into cash. Kasozi (2017) suggested that the companies with higher level of inventory do not face stock-out situation, and are able to secure required finance easily; which in turn tends to enhance their operational efficiency. However, keeping higher stock involves more carrying costs and adversely affects the bottom-line (Iqbal et al., 2014).

The accounts payable turnover ratio indicates how speedily an enterprise makes payment to suppliers or trade creditors. The deferment of payment to suppliers results in freeing up the scarce cash resources for the time-being, and results in saving the operational costs. Singhaniaet al. (2014) revealed that the financial performance of an entity may be improved by hiking the number of days payable, and reducing the number of days receivables. But, at the same time, it may also deprive the customers from availing the prompt payment discounts. Sharma & Kumar (2011) claimed the presence of negative association of inventory turnover ratio, and accounts payable ratio with financial indicators.

It may be concluded that WCM is nothing but to strike a balance between profitability and liquidity because there prevails a significant negative relationship between these two important factors (Raheman & Nasr, 2007).The firms who fail to maintain a satisfactory level of WC may be induced to be insolvent, and have to stomach the pain of bankruptcy. Therefore, they continuously strive for having minimum stock of inventories, follow efficient collection policy to minimize investment in debtors, and be smart enough to bargain from suppliers to allow maximum credit payment period. On the other hand, an optimum level of WC enhances the entity's value by reducing the risk of insolvency and preparing for uncertainty; hence WCM aims to achieve a trade-off between maintaining liquidness and being profitable (Harris, 2005).

After this introductory section, a detailed research methodology of the present review paper has been discussed in Section 2. The Section 3throws light on the trends or patterns emerged during the systematic review of extent literature on the subject; and are trapped and exhibited through tables or figures. It also contains the analysis of diverse outcomes of research papers, examining the relationship between WCM and financial indicators in different countries at varying time periods. Finally, Section 4 concludes with research implications and certain limitations of the study; and pours out some suggestions for future research.

II. Research Methodology

2.1 Statement of Problem

Companies need to have optimum level of working capital, as it affects the bottom-line of business. The body of literature on the impact of working capital management (WCM) on financial performance of firms is not exhaustive or far from maturity. In fact, the researchers all over the world are still struggling to find out a universally accepted association between WCM and financial health of enterprise. But, considering a wide range of industries, operating in diverse economic environment in different parts of the world; the lack of universality on relationship on underlying variables may not be converged without additional research efforts. Hence, there is a great need to synthesize the existing literature on the subject comprehensively for further progress in the field. Through the present review paper, an effort has been made to create a reference booklet of studies piloted by researchers to explore the relationship; and dissect them to enhance the understanding on the nature of extant literature, and present a useful guide for upcoming researchers and others.

2.2 Objectives of the Study

The following are the main objectives of this review paper:

1) To map and throw light on the key trends or patterns embedded in the existing body of knowledge;

2) To ascertain and summarize the direction of relationship explored by existing research studies conducted at national or international level; and
3) To explore possible research gaps in extant body of literature, to provide guidance or assistance to future researchers on the underlying field.

2.3 Universe of Study

The universe for study is all the research articles steered to gauge the relationship between WCM and profitability, published in different refereed journals at national and international level; and are indexed and accessible through Google Scholar, the web search engine.

2.4 Sample Selection

For performing extensive review and analysis of extant literature, 40 research studies have been picked up from Google Scholar. The size of sample has been virtuously guided by judgment sampling technique.

2.5 Period of Study

The research studies selected and retrieved for examination belong to a period of 20 years from 2003 to 2022.

2.6 Research Design

A structured review process has been followed for meta-analysis of extant literature on WCM and its impact on financial indicators; and encompasses two-steps approach. In the first step, the forty relevant research papers have been identified from Google scholar data house. The following exclusion criteria are employed:

1) The studies not strictly directed to WCM and its impact on financial performance of business;
2) The research papers which were not published in peer-reviewed journals. These include papers published as book chapter(s), conference proceedings, or case studies; and
3) The studies which were found irrelevant by going through the abstract meticulously and in few cases by reading through entire paper. The irrelevance was denoted in terms of findings of study, and the research methodology followed.

In the second step, a detailed review of each paper has been carried out to understand comprehensively, the contents and coverage of research work. The relevant papers have been distinguished on the basis of research conclusions on the relationship between WCM and financial indicators. Through systematic analysis of these papers, the embedded trends or patterns are captured. The findings are presented through tables or figures; which are mainly based on the place of study, time-line of publications, sources of data relied upon, industry(s) selected for research, statistical tool employed, and the results of existing literature on the subject.

III. Research Findings

This section discusses the research findings of systematic literature review, and has been elaborated through sub-section 3.1 to 3.7.

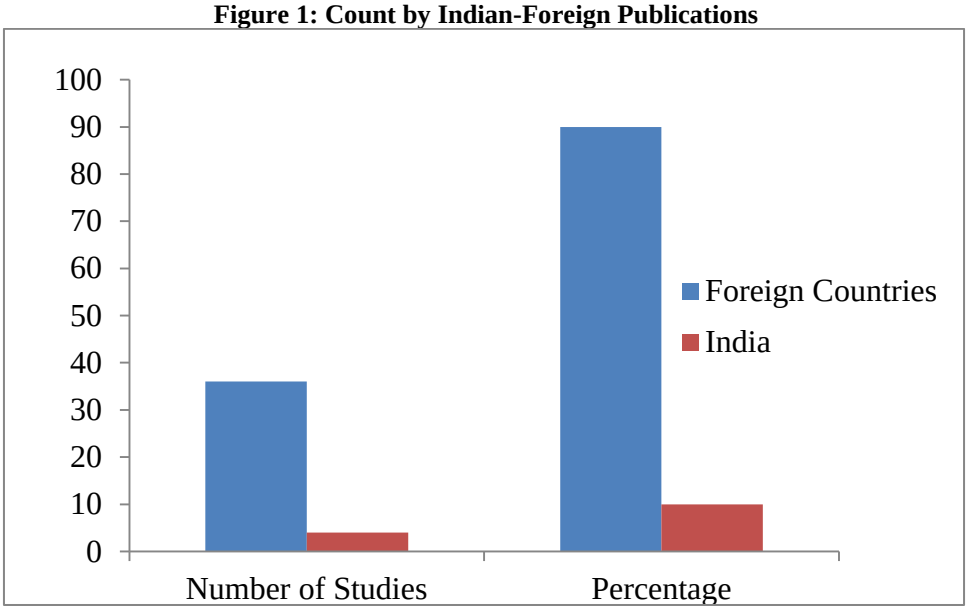
3.1 Research Type

The review process has demonstrated that all the selected studies are turned out to be empirical in nature. The researchers have collected data, and an experimental model of research was preferred. It leads to the opinion that the extant literature has not embraced the conceptual type of research on the subject, which focuses on establishing the relationship between core issues on the basis of observations or without applying any statistical tool or technique. It suggests that non-experimental or descriptive design of research may be opted for future studies.

3.2 Indian-Foreign Distribution

The foreign countries have taken a significant lead with regard to the number of publications to discover the connection between WCM and financial indicators. The Figure 1 is presenting that 90% of the sample studies have been conducted in foreign countries. It has exposed that only 10% of the studies are steered in Indian context. Therefore, more research efforts may be directed to survey Indian industries, individually or jointly, to further ascertain the relationship.

Figure 1: Count by Indian-Foreign Publications



Source: Author-Compilation

3.3 Times-Period Distribution

The Table 1is throwing light on the timeline of sampled publications. It has revealed that half of the studies have been published during 2011 to 2014, and the momentum seems to be picked up again since 2019.

Table 1: Publication Count by Year

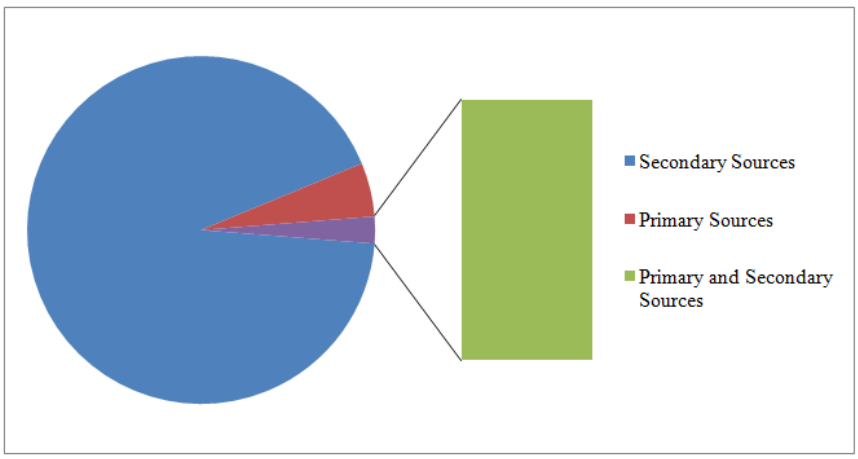
Year	2003-06	2007-10	2011-14	2015-18	2019-22	Total
No. of Studies	2	5	20	6	7	40
Percentage	5	12.5	50	15	17.5	100

Source: Author-Compilation

3.4 Data Sources Distribution

The Figure 2 is focusing on the sources of data used in the existing research papers. The 92.5% studies have relied upon the secondary sources of data. Such sources include the data extracted from financial statements, websites of company, stock exchanges, records of tax office, and databases like Prowess database maintained by Centre for Monitoring Indian Economy Private Limited. A miniscule number of studies (5%) are based on primary data, collected through semi-structured interviews, and/or questionnaires. The reason for this inclination may be attributed to the convenience attached to secondary data in terms of relative cost, time, and availability. Only 2.5% researchers have resorted to both primary and secondary sources. It denotes that more research may be piloted by encompassing primary data.

Figure 2: Sources of Data Used in the Research Papers



Source: Author-Compilation

3.5 Industry-Wise Distribution of Publications

The Table 2 is classifying and revealing that 30% of studies have been conducted on manufacturing industries. The next highest number of research efforts has been concentrated on "across industries" category, being 22.5%, followed by non-financial sector. A single research publication has been found on several industries, such as, beer brewery, electrical equipment, fish-canning, hospitality and tourism, hospitals, and software. This analysis divulges that more industry-specific studies have been navigated, which delivers valuable insights regarding those firms; rather than on all-industries taken together, offering more generalized approach on the connection of WCM and financial indicators. It involves that future research may be designed on a sample of firms across industries to broaden and generalize the understanding on the issue.

Table 2: Industry-Wise Publication Count

Name of Industry	2003-06	2007-10	2011-14	2015-18	2019-22	Total	Percentage
Across-Industries	1	3	3	1	1	9	22.5
Beer Brewery	-	-	1	-	-	1	2.5
Cement	-	-	3	-	-	3	7.5
Electrical Equipment	-	-	-	1	-	1	2.5
Fish-Canning	-	-	-	-	1	1	2.5
FMCG	-	-	2	-	-	2	5
Hospitality and Tourism	-	-	-	-	1	1	2.5
Hospitals	-	1	-	-	-	1	2.5
Industrial Goods	-	-	1	-	1	2	5
Manufacturing	-	-	6	3	3	12	30
Non-financial	1	1	2	-	-	4	10
Software	-	-	-	1	-	1	2.5
Textile	-	-	2	-	-	2	5
Total	2	5	20	6	7	40	100

Source: Author-Compilation

3.6 Statistical Tool Distribution

The Table 3 is unfolding about the statistical tool chosen by researchers to trap the link between WCM and profitability. The regression analysis is the predominant tool employed by 97.5% researchers. Although, it's different models have been observed in the literature, such as, Fixed Effect Regression Model, Pooled Ordinary Least Square Regression, or Simple Regression Analysis. Only one research paper has been initiated by using ANOVA technique.

Return on assets (ROA) as profitability measure has been used by 40% studies, followed by the use of Gross Operating Profit measure by 13% researchers. Other selected measures of financial performance are return on equity (ROE), return on investment (ROI), return on sales, and net operating margin. None of the studies reviewed has recognized market-based measure of corporate financial performance as proxy to the market value of firm, like Tobin Q, market share, earnings per share, or market capitalization. It renders an opportunity for further research work.

The key explanatory variable i.e. WCM has been represented by the four basic components of working capital, namely, receivables, inventory, and payable management through their respective substitutes as average collection period, inventory conversion period, and average payment period; and cash conversion cycle. In some studies, current ratio has also been applied along with these basic constructs. Firm's size and age are the popular control variables observed in the empirical work.

Table 3: Publications Count by Statistical Tool Applied

Statistical tool Applied	Regression Analysis	ANOVA	Total
No. of Papers	39	1	40
Percentage	97.5	2.5	100

Source: Author-Compilation

3.7 Results on Relationship between WCM and Performance Indicators

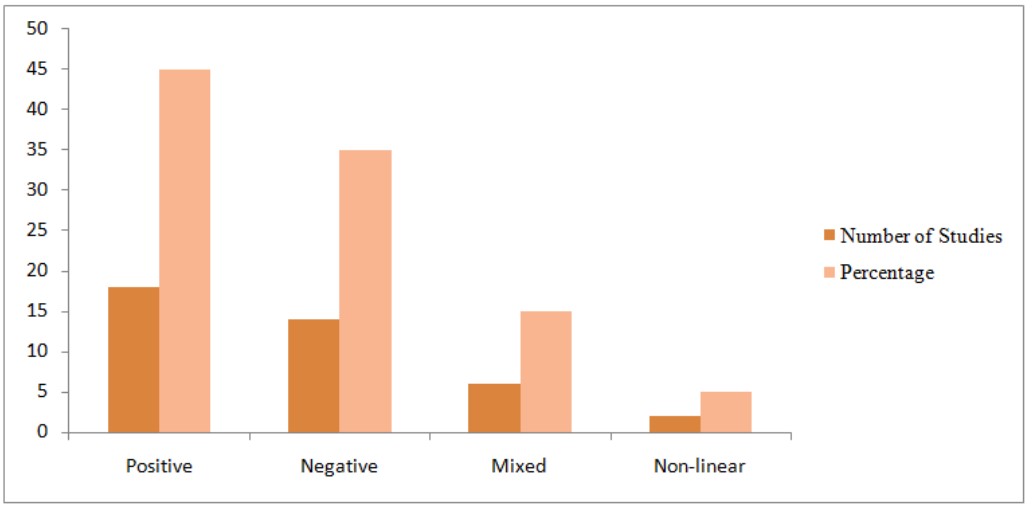
The research papers have been classified in four combinations of possible outcomes of link between WCM and financial performance, namely, positive, negative, mixed, and non-linear. To facilitate comparison, the results are demonstrated by figure 3in sub-section 3.7.1. A relatively detailed view on the relationship has been depicted through Table 4 to Table 7in sub-sections 3.7.2 to 3.7.5.

3.7.1 Comparative Results on Relationship between WCM and Financial Indicators

The 45% of the studies reviewed have indicated a positive relationship, while 35% researchers concluded with negative linkage. There have been 15% research papers which enquired "mixed results". This bunch holds papers, claiming positive or negative link between at least one determinant of WCM and financial health of enterprise; and just opposite with other(s). Only 5% research designs have explored the non-linear type of relationship, such as, U-shaped or convex.

The diverse research methodologies used in the literature have been the major cause of elusive conclusions, and has affected the convergence of outcomes. These include researcher's choice on variables to represent core parameters, size and method of selected sample, time-period and place of study, nature of sampled entities, and the employed statistical tool. Moreover, the results derived are representative of specific data-set of firms surveyed by the researcher. Despite these variations, a positive relationship is unveiled by more research studies than the other type of association.

Figure 3: Results on Impact of WCM on Financial Health of Firms



Source: Author-Compilation

3.7.2Results on Positive Relationship between WCM and Financial Indicators

The 18 studies which found positive link between WCM and profitability have been displayed in Table 4, inferring that all components of WCM has created positive impact on financial indicators, such as, return on assets, return on equity, and return on investment.

Table 4: Studies Investigated Positive Relationship between WCM and Profitability

S.No.	Name of Author(s)	Year of Study	Data and Sample Size	Nature of Entities
1	Deloof	2003	1,009 Entities for a period of 5 Years from 1992-96	Large Belgian Non-Financial Firms
2	Lazaridis & Tryfonidis	2006	131 Companies Listed in the Athens Stock Exchange for the period of 4 Years from 2001-04	Listed Companies of Greece
3	García-Teruel & Martínez-Solano	2007	8,872 Small to Medium-sized Enterprises covering a period of 7 Years from1996-2002.	Medium-sized Spanish Firms
4	Talha et al.	2010	12 Years from 1996 to 2006	Indian Corporate Hospitals
5	Dong & Su	2010	Listed Firms in Vietnam Stock Market for the period of 3 Years from 2006-2008	Non-Financial Companies of Vietnam
6	ul Haq et al.	2011	14 Companies Listed in Karachi Stock Exchange for the period of 6 Years from 2004-2009.	Cement Industry in Pakistan

7	Rahman	2011	39 Listed Companies for a period of 3 Years from 2006-08	Textiles Industry of Bangladesh
8	Uchenna et al.	2012	Top 5 Brewery Firms for the study period of 12 Years from 2000-11	Top Beer Brewery Firms Across Countries
9	Onwumere et al.	2012	28 Firms Listed on Nigerian Stock Exchange for a period of 5 Years from 2004 to 2008	Nigerian Firms Across Sectors
10	Muhammad et al.	2012	25 Listed Firms in Karachi stock Exchange for the period of 6 Years from 2001-06	Firms of Textile Industry of Pakistan
11	Quayyum	2012	Corporations Listed in Dhaka Stock Exchange covering a time-period of 5 Years from 2005 to 2009	Manufacturing Industries in Bangladesh
12	Almazari	2013	8 Companies Listed in Saudi Stock Exchange market for the period of 5 Years from 2008-2012.	Saudi Cement Manufacturing Companies
13	Arunkumar & Ramanan	2013	1198 Manufacturing Firms for a period of 6Years from 2005-10	Manufacturing Indian Firms
14	Mathuva	2015	30 Firms Listed on the Nairobi Stock Exchange for a period of 16Years from 1993 to 2008	Firms of Kenya
15	Jakpar et al.	2017	164 Manufacturing Firms Listed Firms covering a span of 5 Years from 2007 to 2011	Manufacturing Sector in Malaysia
16	Morshed	2020	Semi-structured Interviews of 16 Financial Managers of Manufacturing, Electronic, Foodstuff, and Grocery companies for the Year 2019-20	Listed SMEs in Austria, Bangladesh, Hungry, Jordon, Qatar, and Turkey
17	Alvarez & Vazquez	2021	177 Questionnaires covering a time span of 3 Years from 2016-18	Argentine Manufacturing SMEs Firms
18	Okphiabhele et al.	2022	70 Companies Listed in Nigerian Stock Exchange Fact book for a period of 10 Years from 2011-2020	Industrial Goods Sector in Nigeria

Source: Author-Compilation

3.7.3Results on Negative Relationship between WCM and Financial Indicators

Table 5 presents the 14 research studies which have explored negative bond between WCM and profitability, revealing that WCM has led to deteriorate the financial health of enterprises.

Table 5: Studies Examined Negative Relationship between WCM and Financial Performance

S.No.	Name of Author(s)	Year of Study	Data and Sample Size	Nature of Entities
1	Raheman & Nasr	2007	94 firms Listed for a period of 6 Years from 1999-2004	Listed Pakistani Firms on Karachi Stock Exchange
2	Danuletiu	2010	20 companies covering period of 5Years from 2004-2008	Alba County Companies
3	Al-Debi'e	2011	Listed companies for a period of 10 Years from 2001-2010	Industrial Companies Listed on Amman Stock Exchange, Jordan
4	Alipour	2011	1063 Listed Companies for a period of 6 Years from 2001-2006	Companies Listed in Tehran Stock Exchange, Iran
5	Owolabi & Alu	2012	36 Listed Firms for a period of 5 Years from 2006-2010	Manufacturing Companies Listed on the Nigerian Stock Exchange
6	Bagchi, Chakrabarti & Roy	2012	10 FMCG Companies for a period of 10 Years period from 2001 to 2010.	Indian FMCG Companies
7	Bagchi & Khamrui	2012	FMCG Companies for a period of 10 Years period from 2001 to 2010.	Indian FMCG Companies
8	Alavinasab & Davoudi	2013	147 Listed Companies for a period of 5 Years from 2005-2009	Non-financial Companies Listed on Tehran Stock Exchange, Iran
9	Arshad & Gondal	2013	21 Listed Companies for a period of 7 Years from 2004-10	Pakistan Cement Sector Listed in Karachi Stock Exchange
10	Iqbal, Ahmad & Riaz	2014	Sample of Pakistani Firms Listed on Karachi stock exchange	Pakistani Manufacturing Firms
11	Singhania et al.	2014	Firms Listed on the Bombay Stock Exchange 500 Index	Indian Manufacturing Companies
12	Samiloglu & Akgün	2016	120 Listed Firms for a period of 10 Years from 2003 to 2012	Turkish Manufacturing Firms
13	Khalid et al.	2018	Listed Karachi Stock Exchange companies for a period of 6 Years from 2007-2012	Electrical Equipment Firmsof Pakistan
14	Amponsah-Kwatiah & Asiamah	2020	20 Listed Firms for a period of 5 Years from 2015 to 2019	Manufacturing Firmsof Ghana

Source: Author-Compilation

3.7.4Results on Mixed Relationship between WCM and Financial Health

Some studies have substantiated the existence of mixed type of association between different components of WCM and financial performance, like inventory management is found negatively associated with profitability, but receivables have emerged with positive bond with financial indicators, or vice-versa. The Table 6 is presenting the summary of such studies.

Table 6: Studies Explored Mixed Relationship with Components of WCM and Profitability

S.No.	Name of Author(s)	Year of Study	Data and Sample Size	Nature of Entities
1	Sharma & Kumar	2011	263 Listed Firms for a period of 10 Years from 2000 to 2008	Non-financial Indian Companies Listed in Bombay Stock Exchange
2	Ching et al.	2011	2 Groups of Samples each consisting of 16 Brazilian Listed Companies for a period of 5 Years from 2005- 09	Brazilian Listed Companies
3	Ponsian et al.	2014	30 Listed Firms for a period of 10 Years from 2002-12	Listed Manufacturing Companies in Dar es Salaam Stock Exchange, Tanzania
4	Kasozi	2017	69 Listed Firms for a period of 10 Years from 2007–2016	Manufacturing Firms Listed in Johannesburg Securities Exchange, South Africa
5	Arnaldi et al.	2021	105 Manufacturing Companies for a period of 5 Years from 2014 to 2018	Manufacturing SMEs in the Czech Republic
6	Rey-Ares	2021	377 Companies for a period of 9 Years of 2010–2018	Spanish Companies of Fish Canning Industry

Source: Author-Compilation

7.3.5Results on Non-linear Relationship between WCM and Financial Performance

There are two studies which claimed the non-linear relationship between two underlying variables, and are displayed in Table 7.

Table 7: Studies Describing Non-linear Relationship between WCM and Profitability

S.No.	Name of Author(s)	Year of Study	Data and Sample Size	Nature of Entities
1	Korent & Orsag	2018	Software Companies for a period of 6 Year from 2008-13	Croatian Companies
2	Chambers & Cifter	2022	1156 Firms of 33 Countries for a period of 16 Years from 2004-19	Hospitality and Tourism industry

Source: Author-Compilation

IV. Conclusions

The paper has discussed the evolution of literature in the field of connection between working capital management (WCM) and financial indicators of the firms. Forty research papers have been identified from Google Scholar for extensive reviews which were navigated to assess the relationship. The results have shown the evidence of direction and degree of association between the two; and are ranging from positive, negative, and mixed to non-linear. After indulging in systemic literature review, the findings and research gaps recognized may be enumerated as follows:

1) It has been observed that there is lack of conceptual studies on the subject. All sample studies turned out to be empirical in nature.
2) Foreign countries have taken up lead in terms of the number of publications. The 90% of the studies reviewed have been piloted there. Only 10% research has been undertaken in Indian context, uncovering the opening to consider more research work on Indian firms.
3) Publication of research papers by time period has not shown any pattern or trend. Rather, it has been discovered that half of the research papers have been published during the period 2011 to 2014; and the subject has again drawn the attention of researchers since 2019.
4) The 92.5% studies have been relied upon secondary sources of data, implying further research focusing on primary sources or a combination of both.
5) The review divulges that 30%studies have been conducted on "manufacturing industries". So, there is ample scope of research on other industries.
6) Regression analysis has been the most popular statistical tool to analyze the link on the WCM and financial performance.
7) As a proxy to financial performance, the sample studies have continued to dominate accounting-based spectrum of measures, such as, ROA, ROE, and ROI. The market-based measure of performance like TOBIN Q has not been referred in the extent literature, which may provide more insight on firm's

performance as they incorporate future expected return by stakeholders; and may supplement the results obtained by accounting measures. Therefore, future research may be directed to assess market value of firm by using market-based measures.

8) The literature has unveiled that highest number of studies i.e. 45% have concluded positive link between WCM and financial indicators, followed by 35% research papers with negative connection. A minority of 15% studies has displayed the mixed outcome, and 5% research write-ups have supported a non-linear association. These diverse findings may be attributed to the different research methodologies adopted by researchers in different countries. It indicates that further research efforts are required to establish the convergence on the relationship.

4.1 Implications of the Research

This paper provides a comprehensive review and progress of literature on the impact of WCM on the financial health of firms, for a period of 20 years from 2003 to 2022, for the use of both academicians and practitioners. The review has exhibited the diverse trends or patterns entrenched in the literature. In other words, a reference booklet of studies on the subject has been created, and dissected in order to have better understanding of extant literature; along with highlighting the important gaps or opportunities for further progress in the field which may be exploited by future researchers.

This is the first time a detailed review of literature on the impact of WCM on profitability has been carried out by using systematic literature review from 2003 onwards. The results are useful for academicians, practitioners, researchers, policymakers, and others who are concerned with relationship.

4.2 Limitations of the Study

As no human endeavor is found without confinements, the current review paper is also subject to the following limitations:

1) This paper is not based on exhaustive compilation or the entire universe of literature on the subject which may affect the outcome. The findings may be recognized only for the specific population of online database, selected for a given period of time
2) The review of literature has included studies which were concluded on different business entities operating in diverse economic environment, ignoring the fact that working capital requirements and financing policies differ widely across industries or countries; which might have affected the analysis.

4.3 Scope for Future Research

As discussed, a gap in literature exists in publications that had investigated the impact of WCM on profitability; and may be exploited for further research. It argues that more research on the subject is required in Indian context. The role of control variables like industry type, age and size of firm needs to be further examined in different economic environment to broaden the area of research.

The literature needs to add new dimensions of financial performance, especially the market-based measures like Tobin Q, earnings per share, market capitalization, and market share of firm to investigate the direction and degree of association.

The more research efforts may be undertaken by resorting to primary data, not only to improve understanding of the relationship, but also to minimize the variations in theory and empirical results.

References

[1]. Al Dalayeen, B. (2017). Working capital management and profitability of real estate industry in Jordan: An empirical study. *Journal of Applied Finance and Banking*, *7*(2), 49.

[2]. Alavinasab, S. M., & Davoudi, E. (2013). Studying the relationship between working capital management and profitability of listed companies in Tehran stock exchange. *Business Management Dynamics*, *2*(7), 1.

[3]. Al-Debi'e, M. M. (2011). Working capital management and profitability: the case of industrial firms in Jordan. *European Journal of Economics, Finance and Administrative Sciences*, *36*(36), 75-86.

[4]. Alipour, M. (2011). Working capital management and corporate profitability: Evidence from Iran. *World applied sciences journal*, *12*(7), 1093-1099.

[5]. 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.

[6]. Alvarez, T., Sensini, L., & Vazquez, M. (2021). Working capital management and profitability: Evidence from an emergent economy. *International Journal of Advances in Management and Economics*, *11*(1), 32-39.

[7]. Amponsah-Kwatiah, K., & Asiamah, M. (2020). Working capital management and profitability of listed manufacturing firms in Ghana. *International journal of productivity and performance management*.

[8]. Arnaldi, A., Novak, B., Roscigno, R., & Zhang, W. J. I. J. O. B. M. (2021). Working capital management and profitability: Empirical evidence. *International Journal of Business Management and Economic Research (IJBMER)*, *12*(2), 1911-1917.

[9]. Arshad, Z., & Gondal, M. Y. (2013). Impact of working capital management on profitability a case of the Pakistan cement industry. *Interdisciplinary Journal of Contemporary Research in Business*, *5*(2), 384-390.

[10]. Arunkumar, O. N., & Ramanan, T. R. (2013). Working capital management and profitability: A sensitivity analysis. *International Journal of Research and Development*, *2*(1), 52-58.

[11]. Bagchi, B., & Khamrui, B. (2012). Relationship between working capital management and profitability: A study of selected FMCG companies in India. *Business and Economics Journal*.

[12]. Bagchi, B., Chakrabarti, J., & Roy, P. B. (2012). Influence of working capital management on profitability: a study on Indian FMCG companies. *International Journal of Business and Management*, *7*(22), 1.

[13]. Baños-Caballero, S., García-Teruel, P. J., & Martínez-Solano, P. (2010). Working capital management in SMEs. *Accounting & Finance*, *50*(3), 511-527.

[14]. Chambers, N., & Cifter, A. (2022). Working capital management and firm performance in the hospitality and tourism industry. *International Journal of Hospitality Management*, *102*, 103144.

[15]. Ching, H. Y., Novazzi, A., & Gerab, F. (2011). Relationship between working capital management and profitability in Brazilian listed companies. *Journal of global business and economics*, *3*(1), 74-86.

[16]. Danuletiu, A. E. (2010). WORKING CAPITAL MANAGEMENT AND PROFITABILITY: A CASE OF ALBA COUNTY COMPANIES. *Annales Universitatis Apulensis-Series Oeconomica*, *12*(1).

[17]. Deloof, M. (2003). Does working capital management affect profitability of Belgian firms? *Journal of business finance & Accounting*, *30*(3-4), 573-588.

[18]. Dong, H. P., & Su, J. T. (2010). The relationship between working capital management and profitability: a Vietnam case. *International research journal of finance and economics*, *49*(1), 59-67.

[19]. Erasmus, P. D. (2010). Working capital management and profitability: the relationship between the net trade cycle and return on assets. *Management Dynamics: Journal of the Southern African Institute for Management Scientists*, *19*(1), 2-10.

[20]. Filbeck, G., & Krueger, T. M. (2005). An analysis of working capital management results across industries. *American journal of business*.

[21]. García-Teruel, P. J., & Martínez-Solano, P. (2007). Effects of working capital management on SME profitability. *International Journal of managerial finance*.

[22]. Gill, A., Biger, N., & Mathur, N. (2010). The relationship between working capital management and profitability: Evidence from the United States. *Business and economics journal*, *10*(1), 1-9.

[23]. Harris, A. (2005). Working capital management: difficult, but rewarding. *Financial executive*, *21*(4), 52-54.

[24]. Iqbal, N., Ahmad, N., & Riaz, Z. (2014). The relationship between working capital management and profitability: Evidence from Pakistan. *International Letters of Social and Humanistic Sciences*, *20*(9), 14-25.

[25]. Jakpar, S., Tinggi, M., Siang, T. K., Johari, A., Myint, K. T., & Sadique, M. (2017). Working capital management and profitability: Evidence from manufacturing sector in Malaysia. *Journal of Business & Financial Affairs*, *6*(2), 1-9.

[26]. Kasozi, J. (2017). The effect of working capital management on profitability: A case of listed manufacturing firms in South Africa. *Investment management and financial innovations*, *14*(2.2), 336-346.

[27]. Khalid, R., Saif, T., Gondal, A. R., & Sarfraz, H. (2018). Working capital management and profitability. *Mediterranean Journal of Basic and Applied Sciences (MJBAS)*, *2*(2), 117-125.

[28]. Knauer, T., & Wöhrmann, A. (2013). Working capital management and firm profitability. *Journal of Management Control*, *24*(1), 77-87.

[29]. Korent, D., & Orsag, S. (2018). The impact of working capital management on profitability of Croatian software companies. *Zagreb International Review of Economics & Business*, *21*(1), 47-65.

[30]. 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).

[31]. Leah, K. N., Samuel, E. A., & Mustapha, L. O. (2022). WORKING CAPITAL MANAGEMENT AND PROFITABILITY OF LISTED CONSUMER AND INDUSTRIAL GOODS COMPANIES IN NIGERIA. *Gusau Journal of Accounting and Finance*, *3*(1), 20-20.

[32]. Mathuva, D. (2015). The Influence of working capital management components on corporate profitability.

[33]. Morshed, A. (2020). Role of working capital management in profitability considering the connection between accounting and finance. *Asian Journal of Accounting Research*.

[34]. Muhammad, M., Jan, W. U., & Ullah, K. (2012). Working Capital Management and Profitability An Analysis of Firms of Textile Industry of Pakistan. *Journal of Managerial Sciences*, *6*(2).

[35]. Okphiabhele, E., Ibitomi, T., Dada, D. A., & Micah, E. E. M. (2022). Working Capital Management and Profitability of Industrial Goods Sector in Nigeria. *European Journal of Accounting, Auditing and Finance Research*, *10*(5), 74-90.

[36]. Onwumere, J. U. J., Ibe, I. G., & Ugbam, O. C. (2012). The impact of working capital management on profitability of Nigerian firms: A preliminary investigation. *European Journal of Business and management*, *4*(15), 192-201.

[37]. Owolabi, S. A., & Alu, C. N. (2012). Effective working capital management and profitability: A study of selected quoted manufacturing companies in Nigeria. *Economics and Finance review*, *2*(6), 55-67.

[38]. Ponsian, N., Chrispina, K., Tago, G., & Mkiibi, H. (2014). The effect of working capital management on profitability. *International Journal of Economics, Finance and Management Sciences*, *2*(6), 347-355.

[39]. Quayyum, S. T. (2012). Relationship between working capital management and profitability in context of manufacturing industries in Bangladesh. *International journal of Business and Management*, *7*(1), 58.

[40]. Raheman, A., & Nasr, M. (2007). Working capital management and profitability–case of Pakistani firms. *International review of business research papers*, *3*(1), 279-300.

[41]. Rahman, M. M. (2011). Working capital management and profitability: a study on textiles industry. *ASA university review*, *5*(1), 115-132.

[42]. Rey-Ares, L., Fernández-López, S., & Rodeiro-Pazos, D. (2021). Impact of working capital management on profitability for Spanish fish canning companies. *Marine Policy*, *130*, 104583.

[43]. 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.

[44]. Sharma, A. K., & Kumar, S. (2011). Effect of working capital management on firm profitability: Empirical evidence from India. *Global business review*, *12*(1), 159-173.

[45]. Singhania, M., Sharma, N., & Yagnesh Rohit, J. (2014). Working capital management and profitability: evidence from Indian manufacturing companies. *Decision*, *41*(3), 313-326.

[46]. Talha, M., Christopher, S. B., & Kamalavalli, A. L. (2010). Sensitivity of profitability to working capital management: a study of Indian corporate hospitals. *International Journal of Managerial and Financial Accounting*, *2*(3), 213-227.

[47]. Uchenna, A. W., Mary, O. I., & Okelue, U. D. (2012). Effects of working capital management on profitability: Evidence from the topfive beer brewery firms in the world. *Asian Economic and Financial Review*, *2*(8), 966-982.

[48]. ul Haq, I., Sohail, M., Zaman, K., & Alam, Z. (2011). The relationship between working capital management and profitability: a case study of cement industry in Pakistan. *Mediterranean Journal of Social Sciences*, *2*(2), 365-365.