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A Study on Impact of Working Capital Management on Profitability: A New Dimension from Indian Top Five Cement Companies' Perspective

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Abstract

Management of working capital is considered as a "three faces' coin" with each of inventory management, debtors (debtors + receivables) management along with credit suppliers and short-term lenders management. Still there exists a big tragedy between allocation of permanent (fixed) capital and circulating (working) capital. Even from the inception to incredible operations, firms are undergoing the mismatching status of working capital with respect to operational requirements. The present study encompasses the practical guide of WCM to the small cement producing firms in India, as this study has narrated the working capital policy management of largest cement companies in India. The results revealed that, in order to be considered as biggest companies in the Cement world, the selected firms need to strengthen their working capital position to reap more profits. From the analysis, it is clear that there exist a positive relation exist between profitability and components of WCM.

Keywords: *return on capital employed (ROCE), current ratio, inventory holding period (IHP), debt collection period (DCP), debt payment period (DPP), and net working capital*

1. Introduction –

1.1 Cement Industry [1]India is the silver medalist in production of cement on the globe. Indian cement industry is catering as one of the major industry to the economy and generating employment to more than 10,00,000 people. Since its deregulation, it has attracted a huge amount of FDI from multinational investors. India has a wider scope for its development especially in infrastructure building with the assistance of cement industry. Recent growth prospects like making 98 selected smart cities will push the cement industry in an upward direction.wcm ## working capital management

1.2 Introduction – Working Capital

It is a contest between the fixed capital and working capital allocation. In general lose-lose situations mostly observed repetitively in many of the firms irrespective of the industry nature and size with failure of predicting future conditions of the firm.

Allocation of excessive working capital or conservative working capital leads to collapse of reaching objectives. Hence it is very important to become considered as a financial manager, the optimum allocations by predicting future requirements of the firm along with conditions internally and externally.

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Definition of working capital

From the words of Shubin, it is defined as the capital which is essential to fulfill the requirements of routine requirements. These routine requirements include materials, overheads and labor charges.

1.3 Companies selected for analysis

1. Ultra Tech Cement
2. Shree Cements
3. Ambuja Cements
4. ACC Limited
5. Ramco Cements

2. Review of Literature

Amarjit Gill et. al have encompassed that as business grows, the cash conversion cycle should be maintained at an optimum level, so as to maintain proper liquidity. According to their analysis, accounts receivables should be maintained at a suitable level, so that it could be possible to generate returns to the firm.[2]

Dr Ioannis Lazaridis and Dimitrios Tryfonidis, in their paper have enumerated the relationship between profitability of Athens Stock Exchange (ASE) basis listed firms' profitability and cash conversion cycle (its components). In their research they have considered Gross Operating Profit as profitability variable and debt collection period, stock conversion period, debt payment period as independent variables. They have found that lower level of gross operating profit has resulted in increasing accounts payable period. They also found that less profitable firms intend to decrease their accounts receivables, in order to reduce the gap between receivables to cash conversion period. They also observed that a sudden drop in sales related to misleading of inventory results, stuck-up of excessive capital at the expense of profitable operations.[3]

Ghosh, Santanu & Maji, Santi, in their research have considered organizational performance, firm's utilization and overall efficiency as parameters for measuring the influence of working capital on organizational financial health instead of using some common working capital basis ratios. The results indicated that though most of the firms are having efficiency indicator more than 1, the ultimate results narrated that due to inconsistency in such efficiency, organizations working capital utilization capacity was poor during the study period.[4]

Mian Sajid Nazir and Talat Afza, in their study illustrated that aggressive current assets management and conservative working capital policies will result worst performance of the firm. However they suggested that the investors need to go with the firms with aggressive current liability management policy basis firms.[5]

Richard Kofi Akoto et. al, from their evaluation described that there is a negative relationship exist between profitability and debt collection period. Along this result, they also stated that there exists a positive relation between the firm's size, current ratio, current assets turnover ratio to the profitability of a business concern. They also described that it is the major task in front of the executives to declare incentives in order to shorten the debt collection period to below 30 days.[6]

Sonia Banos-Caballero et. al from their study have revealed that, at the earlier age of the firm, the allocations in working capital results hike in the performance. As the time progresses, the limitation of

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funding in working capital leads to positive working capital, later again the excessive allocations in working capital results objective basis standard performance of the firm.[7]
Sushma Vishnani & Bhupesh Kr. Shah, from their research study have narrated that there is a negative relationship between liquidity and profitability. If a firm wanted to increase its working capital, it will adversely impact on its sales and profitability. They illustrated that working capital management is considered as management of working capital cycle. To secure the interests of stakeholders, it is very important to reduce the working capital to an appropriate level.[8]

Objectives of the study
To find the influencing factors of working capital management on profitability in top 5 cement companies in India.

3. Research Methodology

Initially correlation test is conducted to test the correlation between all the dependent and independent variables. Then t-test is conducted to test the influence of independent variables over the dependent variable.
H_0: there is no significant difference between the sample means
H_1: there is significant difference between the sample means

4. Analysis

Return on capital employed (ROCE) is considered as dependent variable from profitability's perspective. Current Ratio (CR), Inventory Holding Period (IHP), Debt Collection Period (DCP), Debt Payment Period (DPP) and Net Working Capital (NWC) ratios are taken as independent variables from past available literature.
In the below table 1# Ultra Tech Cement
2# Shree Cements
3 # Ambuja Cements
4 # ACC Limited
5 # Ramco Cements

Table 1: Ratios of selected Cement Companies from 2014-15 to 2018-19

FIRM	YEAR	CR	IHP	DCP	DPP	NWC	ROCE (%)
1	2014-15	0.90	43.76	19.38	304.74	-874.39	7.62
1	2015-16	0.86	35.06	20.38	222.05	-1,577.15	8.78
1	2016-17	1.55	33.99	20.80	256.65	4,409.95	13.96
1	2017-18	0.96	37.98	18.58	186.12	-499.01	10.88
1	2018-19	0.97	33.46	19.82	282.80	-384.53	10.69
2	2014-15	1.61	51.99	27.00	49.42	884.52	6.50
2	2015-16	1.56	53.99	26.65	63.80	646.96	13.77
2	2016-17	1.65	55.81	14.37	52.30	1,293.06	14.59
2	2017-18	1.92	58.21	15.20	71.64	2,733.02	11.36
2	2018-19	2.01	49.46	19.03	59.07	2,005.03	11.40
3	2014-15	2.03	34.53	11.16	87.06	3,322.51	7.38
3	2015-16	1.23	37.21	13.54	104.60	781.94	4.67
3	2016-17	1.34	36.72	12.53	108.13	1,383.20	8.42
3	2017-18	1.54	41.06	12.94	110.56	2,024.87	8.00

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3	2018-19	1.54	29.84	15.81	104.25	2,400.68	9.01
4	2014-15	0.88	36.79	14.99	77.18	-438.11	6.54
4	2015-16	0.99	40.02	15.57	103.87	-53.71	6.44
4	2016-17	1.16	38.58	15.60	119.18	777.81	13.93
4	2017-18	1.40	41.38	18.94	126.91	1,887.19	13.97
4	2018-19	1.58	13.72	17.45	114.92	2,738.82	17.08
5	2014-15	0.83	52.14	38.62	118.42	-243.55	4.30
5	2015-16	0.88	55.73	43.18	133.93	-182.32	10.07
5	2016-17	0.70	53.21	47.53	135.88	-601.94	19.11
5	2017-18	0.70	46.38	51.50	129.54	-552.61	10.60
5	2018-19	0.67	39.67	33.20	115.49	-671.88	12.47

Source: calculated from the annual reports of the companies

Table 2: Analysis of correlation between the variables

	CR	**IHP**	**DCP**	**DPP**	**NWC**	**ROCE (%)**
CR	1					
IHP	-0.00612	1				
DCP	-0.57087	0.438251	1			
DPP	-0.43808	-0.31301	0.052056	1		
NWC	0.847561	-0.22988	-0.46097	-0.25575	1	
ROCE	0.080889	-0.01366	0.212852	0.028001	0.194343	1

Source: calculated from the annual reports of the companies

From the Table 2, it is clear that there is strong correlation exist between current ratio (CR) and Net working capital. So, either of the variables should be eliminated from the list for further analysis. For the current analysis purpose, Net Working Capital (NWC) is eliminated from the table.

Table 3: T-test Paired Two Sample for Means

	CR	***ROCE***	***IHP***	***ROCE***	***DCP***	***ROCE***	***DPP***	***ROCE***
Mean	10.4616	1.2584	10.4616	42.0276	10.4616	22.5508	10.4616	129.5404
Variance	14.19891	0.180056	14.19891	104.0447	14.19891	129.6937	14.19891	4796.634
Observations	25	25	25	25	25	25	25	25
Pearson Correlation	0.080889		-0.01366		0.212852		0.028001	
Hypothesized Mean Difference	0		0		0		0	
df	24		24		24		24	
t Stat	12.2458		-14.4504		-5.393		-8.59716	
P(T<=t) one-tail	4.1E-12		1.22E-13		7.71E-06		4.31E-09	
t Critical one-tail	1.710882		1.710882		1.710882		1.710882	
P(T<=t) two-tail	8.2E-12		2.44E-13		1.54E-05		8.62E-09	
t Critical two-tail	2.063899		2.063899		2.063899		2.063899	

Source: calculated from the annual reports of the companies

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From the table 3, it is vivid that t stat is greater than or less than t Critical two tail in all four cases. But in case of DCP & ROCE, the mean difference (22.55 & 10.46) is not enough to conclude that debt collection period has strong influence on ROCE of selected firms.

5. Findings & Suggestions

- From the Table 1, it is clear that all the selected five cement companies have maintained their current ratio below the ideal (2:1).
- From the Table 1, it is clear that the firms Shree Cements and Ramco Cements need to work out to bring betterments in case of reducing Inventory Holding Period. As the IHP is more, it means that the liquidity stuck-up in the form of inventory.
- The debt collection period of cement firms except Shree Cements are exceptional. The only firm which needs to work out to reduce DCP is Shree Cements. The remaining firms have the scope of flexibility to increase their DCP up to 30 days in order to increase the sales.
- The debt payment period of the cement firms other than Shree Cements are very high in nature. In order to reduce cumulative interest payments and to strengthen the income statement, the firms need to bring the DPP to below 30 days.
- The Net Working Capital of Ultra Tech Cement and Ramco Cements are negative in nature, which is a bad sign for future liquidity status.

Suggestions for the firms in the context of working capital management

- The cement companies in India need to adopt sound working capital management policies, which should be much flexible than stereophonic in nature.
- The other major responsibility of the government to promote the cement industry in India is to tailor policies for the safeguard of local cement firms to control the competition from international firms.
- To improve their liquidity and profitability position, these cement companies need to come-up with "reasonable receivables management policy", "conservative debt payment policy" and "optimum inventory management policy" in order to boost the sales especially in these **pandemic** conditions.

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