Vidhyayana - ISSN 2454-8596
An International Multidisciplinary Peer-Reviewed E-Journal
www.j.vidhyayanaejournal.org
Indexed in: ROAD & Google Scholar

Working Capital Management Strategy: A Comparative Study of selected companies of Chemical industry in India

AUTHOR:

Ms. Krishna Ashutoshbhai Vyas

[M.com., M.Phil., GSET, Ph.D. Pursuing]

Ph. D. Research scholar

Department of Commerce and Business Administration

Saurashtra University

Vidhyayana - ISSN 2454-8596
An International Multidisciplinary Peer-Reviewed E-Journal
www.j.vidhyayanaejournal.org
Indexed in: ROAD & Google Scholar

Abstract:

An attempt had made in this research to explain working capital management in context of chemical industry in India. Five chemical companies considering market capitalization had been selected and research period covers five years from 2016 to 2020. In order to justify the topic accounting tool – Ratio analysis is applied in which Inventory Turnover Ratio (X), Working Capital Ratio (X), Acid Test Ratio (X) and Collection Ratio and Cash Position Ratio (%) are used while statistical test – ANOVA test for single factor is applied to comparatively analyze significant difference in selected working capital ratios between selected Chemical companies which depicted that there is significance difference in Working Capital Ratio (X), Acid Test Ratio (X) and Collection Ratio and Cash Position Ratio (%) accept in Inventory Turnover Ratio (X) between selected Chemical companies. It had suggested that companies must focus on its working capital in order to avoid short term finical crisis and have smooth functioning of its business operation.

Key Words: Chemical Industry, Working Capital Management, Market Capitalization ANOVA

I. INTRODUCTION:

Working capital is mainly called as circulating capital or Short Term Capital. Level of inventories, debtors and creditors are one of the crucial factors of Working capital management moreover it consists of examination of cash flow, current assets, and current liabilities through different ratio analysis which consist of the working capital ratio, current ratio, collection ratio, and inventory turnover ratio. Ultimately an effective working capital management can lead to boost profitability and liquidity position. Working capital management is important for any kind of companies. In view of Chemical industry of India, it is tremendously spread which can be classified as agrochemicals, petrochemicals, bulk chemicals, polymers, specialty chemicals, and fertilizers it covers more than 80,000 commercial products. At global level, India stood 14th in export and 8th in import of chemicals not considering pharmaceuticals.

II. LITERATURE REVIEW:

(Aghera, Lakhlani, & Trivedi, 2018) had conducted research on "A study on working capital management through ratio analysis". Research is based on secondary data: current assets, current liabilities, liquid assets, debtors etc. moreover it was analyzed from 2006-07 to 2015-16. Tools and techniques used for the research were Ratio analysis, Karl Pearson's correlation and regression. At the end researchers find out that there is positive correlation between Inventory turnover & return on assets, working capital turnover & return on

assets and working capital turnover ratio & net profit margin while negative correlation between debtors' turnover ratio & net profit margin.

(B. & R., 2018) had made an attempt of describing "Working Capital Management Efficiency: A Study on Selected Pharmaceutical Companies in India". The research was conducted on 15 pharmaceutical companies which were analyzed by categorizing them in three groups like: large size, medium size and small size. Secondary data were analyzed for the period of 10 year using performance index of working capital management, utilization index of working capital management and efficiency index of working capital management.

(Kalsie & Arora, 2016) had "Analysis of Working Capital Management of Indian FMCG Companies". Research was carried out on five FMCG companies during 2010-2014. Analysis of researcher conducted using Current ratio, Receivable Turnover, Inventory Turnover, return on capital employed, Cash Conversion Cycle, Payable Turnover.

III. RATIONAL OF THE STUDY:

It been clinched that no research is been conducted considering the objectives mentioned in this research which gave wide scope to researcher to conduct research on "Working Capital Management Strategy: A Comparative Study of selected companies of Chemical industry in India"

IV. OBJECTIVES:

- To understand working capital management.
- To evaluate working capital management of selected companies of Chemical industry in India during the period of study.

V. HYPOTHESIS:

Ho: There is no significant difference in Inventory Turnover Ratio (X) of selected companies of Chemical industry in India during the period of study.

Ho: There is no significant difference in Working Capital Ratio (X) of selected companies of Chemical

Vidhyayana - ISSN 2454-8596
An International Multidisciplinary Peer-Reviewed E-Journal
www.j.vidhyayanaejournal.org
Indexed in: ROAD & Google Scholar

industry in India during the period of study.

Ho: There is no significant difference in Acid Test Ratio (X) of selected companies of Chemical industry in India during the period of study.

Ho: There is no significant difference in Collection Ratio (X) of selected companies of Chemical industry in India during the period of study.

Ho: There is no significant difference in Cash Position Ratio (%) of selected companies of Chemical industry in India during the period of study.

VI. RESEARCH METHODOLOGY:

A. Universe of the Study:	All listed companies of Chemical industry in India in BSE.	
B. Nature of the Study:	Analytical & Quantitative in nature since here Analysis of working capital of selected companies of Chemical industry in India is carried out through quantitative data	
C. Sampling Technique:	Convenience sampling technique is used.	
D. Sample of the study:	Company Name	Market Cap (Rs. Crore.)
	Vikas Life	214.31
	Resonance	159.31
	Deep Polymers L	80.43
	Polylink Polyme	33.32
E. Collection of Data:	Study is based on secondary data.	
F. Period of the Study:	Research covers five years' data from **2015-16 to 2019-20.**	

VI. TOOLS AND TECHNIQUES:

A. Ratio Analysis: To Working Capital Management Strategy of the selected companies of

Vidhyayana - ISSN 2454-8596
An International Multidisciplinary Peer-Reviewed E-Journal
www.j.vidhyayanaejournal.org
Indexed in: ROAD & Google Scholar

Chemical industry in India during the period of study.

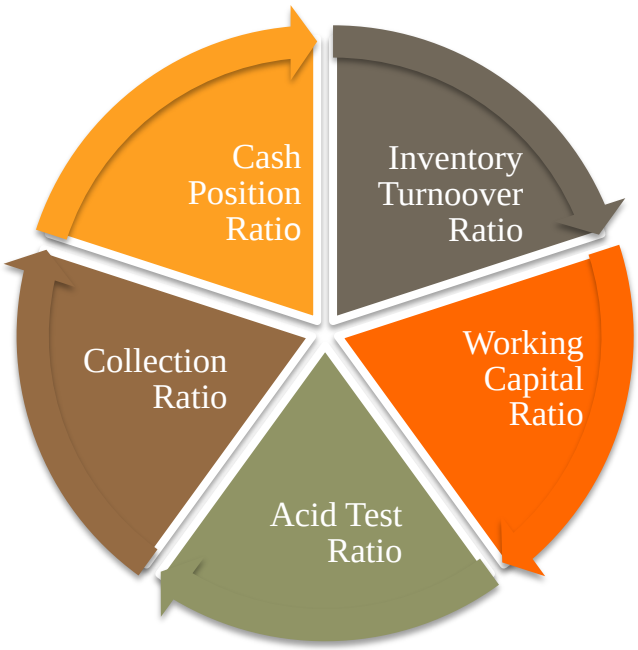


Figure 1 Working Capital Management Strategies

B. Mean: It is used see the standard performance of the selected companies of Chemical industry in India during the period of study.

C. Standard Deviation: It is used to examine extent to which statistics fluctuates from its mean value.

D. ANOVA Test: To compare mean of different selected companies of Chemical industry in India during the period of study.

VII. DATA ANALYSIS:

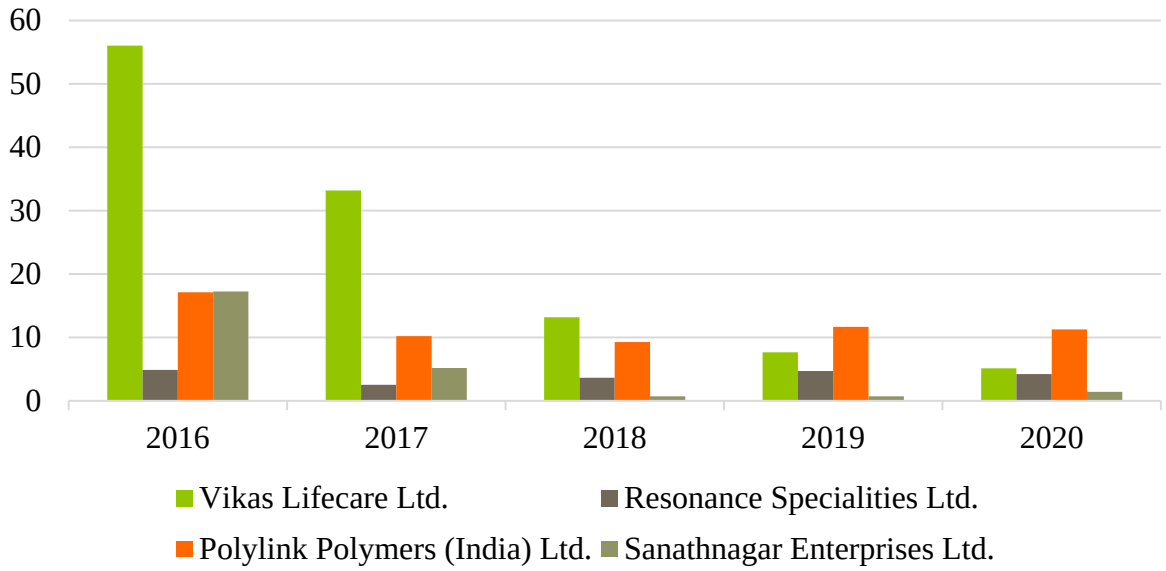
Table 1: Inventory Turnover Ratio (X)

	Mar-16	*Mar-17*	*Mar-18*	*Mar-19*	*Mar-20*	*Mean*	*SD*
VLL	56.04	33.19	13.17	7.64	5.12	23.03	21.49

Vidhyayana - ISSN 2454-8596
An International Multidisciplinary Peer-Reviewed E-Journal
www.j.vidhyayanaejournal.org
Indexed in: ROAD & Google Scholar

RSL	4.86	2.52	3.62	4.69	4.2	3.98	0.95
PPL	17.12	10.2	9.27	11.66	11.26	11.90	3.06
SEL	17.24	5.17	0.69	0.69	1.4	5.04	7.07

Figure 2: Inventory Turnover Ratio (X)



Subsequent to the above presented Table and Figure; An inventory turnover formula can be used to measure the overall efficiency of a business. In accustomed, "higher inventory turnover ratio signposts healthier performance and lower turnover ratio specifies disorganization. Moreover, a high inventory turnover decreases the amount of capital company have occupied in their inventory, in this manner it expands their liquidity and financial strength." Inventory Turnover ratio VLL and SEL was highest in 2016 which gradually it decreases showing declining trend. while on the other hand PPL and RSL had consistent throughout the year. It can be concluded that RSL and PPL standard deviation is low which indicates that the data points are very close to the mean.

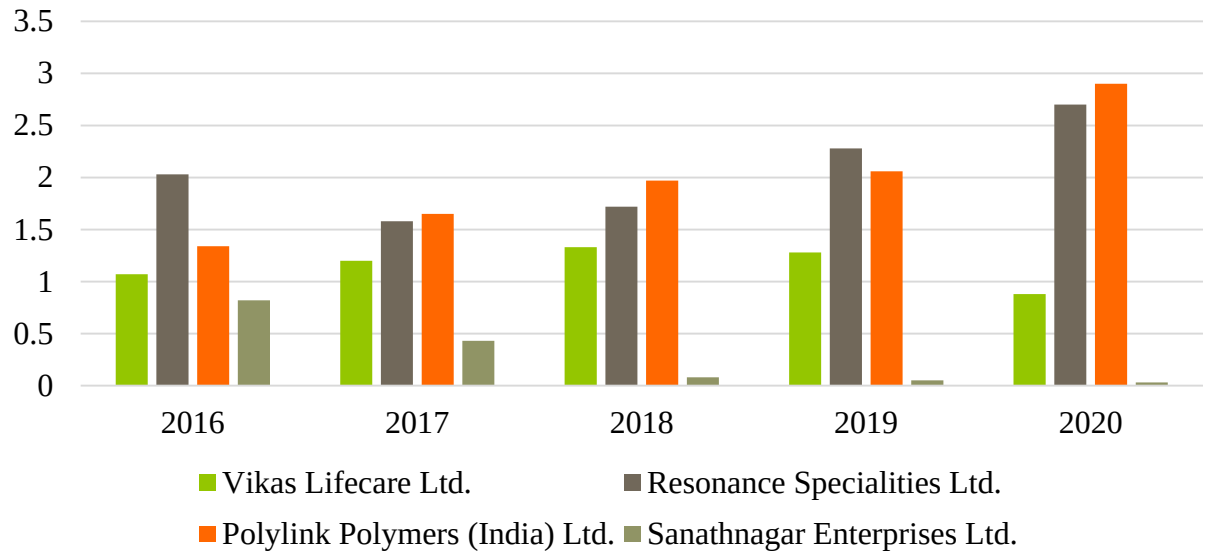
Table 2: Working Capital Ratio (X)

	Mar-16	***Mar-17***	***Mar-18***	***Mar-19***	***Mar-20***	***Mean***	***SD***
VLL	1.07	1.2	1.33	1.28	0.88	1.15	0.18

Vidhyayana - ISSN 2454-8596
An International Multidisciplinary Peer-Reviewed E-Journal
www.j.vidhyayanaejournal.org
Indexed in: ROAD & Google Scholar

RSL	2.03	1.58	1.72	2.28	2.7	2.06	0.45
PPL	1.34	1.65	1.97	2.06	2.9	1.98	0.59
SEL	0.82	0.43	0.08	0.05	0.03	0.28	0.34

Figure 3: Working Capital Ratio (X)

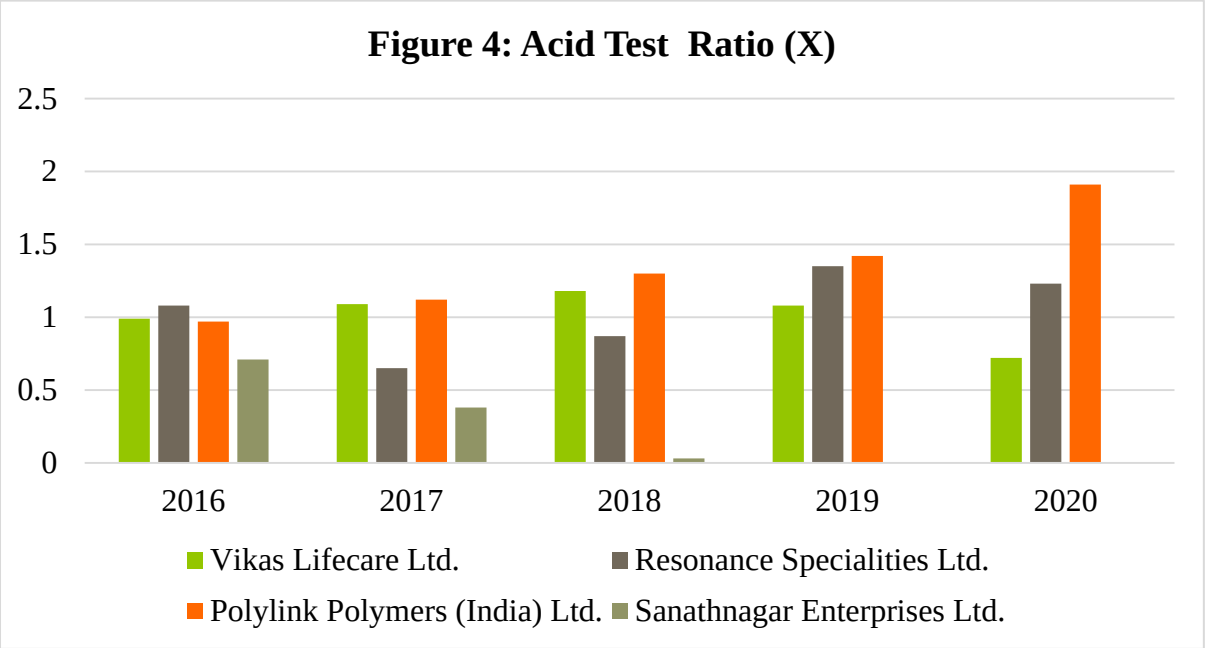


Subsequent to the above presented Table and Figure; working capital ratio is used to analyses liquidity position of the company. A working capital ratio where between 1.2 and 2.0 is frequently reflected a positive sign of satisfactory liquidity and pleasant financial health; Conversely, a working capital ratio higher than 2.0 may perhaps be elucidated negatively. Here considering mean value VVL (1.15), PPL (1.98) is between 1.2 and 2.0 while SEL (0.28) very low while of RSL (2.06) is higher than 2.0 but almost nearer to 2. However, PPL and RSL had higher working capital ratios during last two years.

Table 3: Acid Test Ratio (X)

Vidhyayana - ISSN 2454-8596
An International Multidisciplinary Peer-Reviewed E-Journal
www.j.vidhyayanaejournal.org
Indexed in: ROAD & Google Scholar

	Mar-16	Mar-17	Mar-18	Mar-19	Mar-20	Mean	SD
VLL	0.99	1.09	1.18	1.08	0.72	1.01	0.18
RSL	1.08	0.65	0.87	1.35	1.23	1.04	0.28
PPL	0.97	1.12	1.3	1.42	1.91	1.34	0.36
SEL	0.71	0.38	0.03	0	0	0.22	0.32



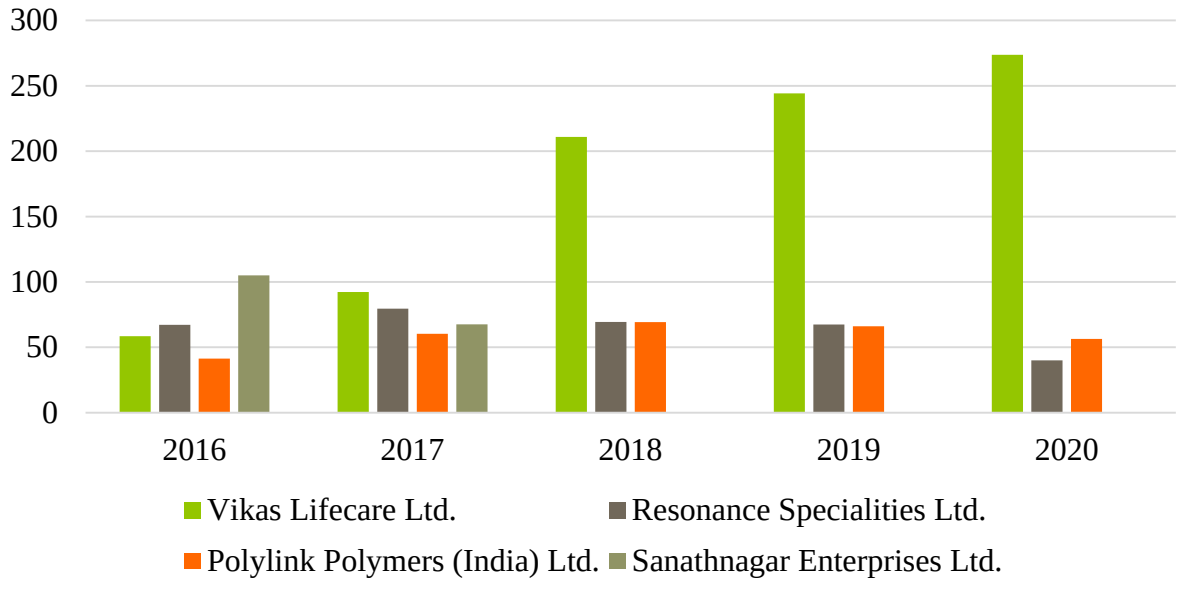
Subsequent to the above presented Table and Figure; The acid-test ratio compares a company's most short-term assets to its most short-term liabilities to understand whether a company has sufficient cash to pay its urgent liabilities, such as short-term debt or not. Companies with an acid-test ratio of less than 1 do not have abundant liquid assets to pay its pressing liabilities and should be treated with vigilance. Here considering mean value VVL (1.01), RSL (1.04) and PPL (1.34) had higher Acid test ratio while SEL (0.22) had lowest acid test ratio. Apart from this standard deviation of VVL and RSL is lowest means its ratio data had low deviation from its mean while ratio data of PPL had wide deviation from mean.

Vidhyayana - ISSN 2454-8596
An International Multidisciplinary Peer-Reviewed E-Journal
www.j.vidhyayanaejournal.org
Indexed in: ROAD & Google Scholar

Table 4: Collection Ratio

	Mar-16	*Mar-17*	*Mar-18*	*Mar-19*	*Mar-20*	*Mean*	*SD*
VLL	58.45	92.27	210.93	244.23	273.73	175.92	95.21
RSL	67.14	79.55	69.35	67.39	40.02	64.69	14.70
PPL	41.30	60.34	69.24	66.09	56.46	58.69	10.91
SEL	105.01	67.53	0	0	0	34.51	49.07

Figure 5: Collection Ratio



Subsequent to the above presented Table and Figure; The collection ratio is used to measure of how proficiently a company administers its accounts receivables; it demonstrations how competent a company is in collecting payment after a sales transaction. The lower a company's collection ratio, the more well-organized its cash flow. The collection ratio of VLL shows increasing trend. That of RSL shows declining trend. And of PPL is moderately declining trend. The mean value of PPL (58.69) and RSL (64.69) moreover standard deviation of PPL (10.91) and RSL (14.70) is lowest that means ratio data are not much fluctuated

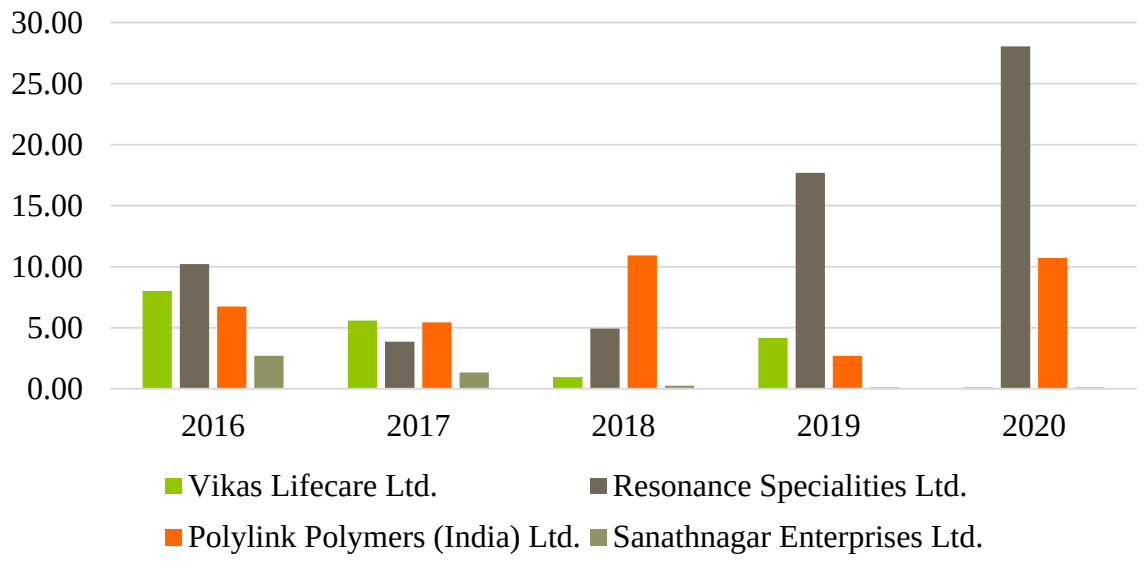
Vidhyayana - ISSN 2454-8596
An International Multidisciplinary Peer-Reviewed E-Journal
www.j.vidhyayanaejournal.org
Indexed in: ROAD & Google Scholar

from its mean value hence this two companies are having good collection ratio.

Table 5: Cash Position Ratio (%)

	Mar-16	*Mar-17*	*Mar-18*	*Mar-19*	*Mar-20*	*Mean*	*SD*
VLL	8.02	5.59	0.96	4.17	0.12	3.77	3.27
RSL	10.21	3.86	4.94	17.69	28.05	12.95	10.06
PPL	6.75	5.45	10.93	2.70	10.71	7.31	3.53
SEL	2.70	1.35	0.25	0.10	0.11	0.90	1.13

Figure 6: Cash Position Ratio



Subsequent to the above presented Table and Figure; The cash ratio is most frequently used as a measure of a company's liquidity; suppose the company is obligatory to pay all current liabilities proximately, this metric shows ability of the company to fulfill its liabilities without selling or liquidating its other assets. VLL showed declining trend RSL & PPL showed declining trend up to 2017 then it started increasing throughout the research period. The mean value of RSL (12.95), PPL (7.31) which means the more or less

Vidhyayana - ISSN 2454-8596
An International Multidisciplinary Peer-Reviewed E-Journal
www.j.vidhyayanaejournal.org
Indexed in: ROAD & Google Scholar

these companies are having good cash position ratios.

Table 6: Anova: Single Factor

	Source of Variation	*SS*	*df*	*MS*	*F*	*F crit*	*P-value*
ITR	*Between Groups*	1152.18	3	384.06	2.94	3.24	0.06
	Within Groups	2088.79	16	130.55			
	Total	3240.97	19				
WC	*Between Groups*	10.44	3	3.48	20.04	3.24	0.00
	Within Groups	2.78	16	0.17			
	Total	13.21	19				
ATR	*Between Groups*	3.43	3	1.14	13.47	3.24	0.00
	Within Groups	1.36	16	0.08			
	Total	4.78	19				
CR	*Between Groups*	59557	3	19852	6.73	3.24	0.00
	Within Groups	47230	16	2952			
	Total	106787	19				
CPR	*Between Groups*	403.83	3	134.61	4.29	3.24	0.02
	Within Groups	502.46	16	31.40			
	Total	906.29	19				

Subsequent to the above presented Table; the F calculated value of ITR (2.94) which is less than F Critical value (3.24) which results in acceptance of Null Hypothesis at 5% significant level henceforth there is no significant difference in ITR of selected companies of Chemical industry in India during the period of study. While in case of WC (20.04), ATR (13.47), CR (6.73) and CPR (4.29) which is higher than F Critical value (3.24) which result in rejection of Null Hypothesis at 5 % significant level henceforth there is significant

Vidhyayana - ISSN 2454-8596
An International Multidisciplinary Peer-Reviewed E-Journal
www.j.vidhyayanaejournal.org
Indexed in: ROAD & Google Scholar

difference in WC, ATR, CR and CPR of selected companies of Chemical industry in India during the period of study.

VIII. FINDINGS & CONCLUSION:

Inventory turnover ratio of VLL, RSL and PPL is good since it has higher ITR. Since "higher ITR signposts healthier performance and lower turnover ratio specifies disorganization. Moreover, inventory ratio of RSL was most consistent and While that of VLL and PPL was fluctuating but still highest among other throughout the research period. which shows that company is maintaining its inventories well.

Working capital ratio of VLL, RSL and PPL is good since WC where between 1.2 and 2.0 is frequently reflected a positive sign of satisfactory liquidity. Moreover, it is observed that working capital ratio in VLL up to 2019 was between 1.0 to 2.0, in RSL during 2016, 2019 and 2020 it was greater than 2 but almost near to 2 while in PPL it was between 1.0 to 2.0 up to 2018 then it showed greater than 2.0 but nearer to 2.0

Acid Test Ratio of VLL, RSL and PPL is good since ACT of more than 1 reflect abundant liquid assets to pay its pressing liabilities. Aggregately ACT of these three companies was greater than 1 throughout the research period. Moreover, PPL had increasing trend which shows excellent acid test ratio. While that of VLL was little fluctuating and RSL highly fluctuating.

Collection ratio of RSL and PPL was good since they had low and consistence CR throughout the period which displays how competent a company is in collecting payment after a sales transaction. Both the company had fluctuating trend of collection ratio but at end it showed declining trend.

Cash Position Ratio of RSL and PPL was good since they had high and consistence CPR throughout the period which displays extent to which company can fulfill its liabilities without selling or liquidating its other assets. RSL had fluctuating CPR up to 2018 then it increased with increasing trend while PPL had fluctuating CPR up to 2019 than it increased with increasing trend.

From the ANOVA test it has been evaluated that Excluding ITR there is significance difference in all other selected ratios of selected companies of Chemical industry in India during the period of study.

In nutshell, "working capital management is a business strategy designed to ensure that a company operates efficiently by monitoring and using its current assets and liabilities to the best effect." Comprehensively the working capital management in VCL., RSL. And PPL. Was healthier compared to SEL.

IX. REFERENCES:

Kalsie, A., & Arora, A. (2016). Analysis of Working Capital Management of Indian FMCG Companies. *Rukmini Devi Institute of Advanced Studies, XIV*(2), 72-86.

Aghera, S. M., Lakhlani, C. D., & Trivedi, S. M. (2018). A study on working capital management through ratio analysis. *International Research Journal of Agricultural Economics and Statistics, IX*(2), 266-270.

B., H. L., & R., S. R. (2018). Working Capital Management Efficiency: A Study on Selected Pharmaceutical Companies in India. *International Journal Of Information And Computing Science, V*(1), 40-45.

https://www.moneycontrol.com

https://www.investopedia.com

X. ABBREVIATIONS:

ITR = Inventory Turnover Ratio

ATR= Acid Test Ratio

CR= Collection Ratio

PPL = Polylink Polymers (India) Ltd.

SEL = Sanathnagar Enterprises Ltd.

CPR = Cash Position Ratio

WC = Working Capital Ratio

VLL = Vikas Life Care Ltd.

RSL Resonance Specialities Ltd.