

A Comparative Analysis of Management of Working Capital between Manufacturing and Service Sector Companies in India

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Abstract

Working capital may be considered as the life blood of a business concern. Capable management of working capital leads to the achievement of objectives of a business firm, whereas its unproductive management can result not only in loss of returns but also in final collapse of even a profitable concern. As a result, proper management of working capital is decisive for the accomplishment of the goal of an organisation. The present study discovered that significant difference existed between industries in working capital measures across time and also found that these measures for working capital changed significantly within industries across time.

Keywords: *Current Assets, Current Liabilities, Liquidity, Profitability, Working Capital, Working Capital Gap*

Paper Type: *Analytical Research*

Prologue

Working capital management helps in maintaining the solvency, goodwill, liquidity and profitability. It also facilitates availing cash discounts, loans and advances on favourable terms, regular payment of salaries, wages and other day-to-day liabilities, creating the capability to encounter crisis, environment of safety, self-assurance, high spirit and improves the overall effectiveness of the company.

Review of Literature

Harbans Lal Verma (1989) examined working capital management in Tata Iron and Steel Company Ltd. (TISCO), Steel Authority of India Ltd. (SAIL) and Indian Iron and Steel Company (IISCO) during the period from 1978-79 to 1985-86 by using the financial tools and statistical techniques. The study revealed that Tata Iron and Steel Company Limited had better working capital management in comparison to Steel Authority of India Limited and Indian Iron and Steel Company. Results also revealed that all the three firms under study had made excessive use of bank borrowings to finance the working capital requirements.

Lazaridis and Tryfonidis (2006) investigated the relationship between profitability and working capital management of 131 companies listed with Athens Stock Exchange for the period of 2001-04. The results reveal that there is statistical significance between profitability, measured through gross operating profit, and the cash conversion cycle. They further reveal that manager can generate profits for their companies by keeping the components of working capital at an optimal level.

Rationale of the Study

The significance of working capital can be highlighted from the fact that a substantial segment of the assets is blocked up in the current assets which requires lot of hard work, a lot of time and scarce resources to manage. If the firm is unable to use its cash efficiently and effectively it can result in decrease in its profitability.

Objectives of the Study

- (a) To analyze the working capital position of the firm for last five years.
- (b) To analyze the liquidity and profitability, solvency position of the firm.

Hypothesis

- (a) Working Capital gap (Current Assets minus Current Liabilities) is positive.
- (b) There is no relationship between working capital (liquidity) and Operating Profit (profitability).

Research Methodology

This study is an analytical research. The research has to use facts or information already available and analyze these to make critical evaluation of the study. A sample size of the study is five years from 2011 to 2015. In data collection as basically used the secondary data, as available in the records of the unit as from the publication of the financial statements in the company annual reports as include the balance sheet and profit and loss account of the company. Analysis of data is made using certain financial tools and techniques as ratio analysis. For the purpose of this study the term working capital gap means the difference between current assets and current liabilities.

Data Analysis and Findings

The analysis of the financial data of select companies from the manufacturing and service sector are presented in the below mentioned tables.

Table 1: Financial Data of Working Capital Items of Manufacturing Sector Companies

(Rs. in Crores)

Company Name	YE 31st March	CURRENT LIABILITIES (Sources of Short Term Funds)					CURRENT ASSETS (Application of Short Term Funds)							Working Capital (CA minus CL)
		Short Term Borrowings	Trade Payables	Other Current Liabilities	Short Term Provisions	Total Current Liabilities	Current Investments	Inventories	Trade Receivables	Cash & Cash Equivalents	Short Term Loans & Advances	Other Current Assets	Total Current Assets	
Titan	2011	0	1,522.70	953.9	178.56	2,655.16	0	1,993.83	113.68	1,096.50	85.59	15.59	3,305.19	650.03
	2012	0	1,750.15	1,187.91	236.69	3,174.75	0	2,878.67	163.11	960.53	123.25	32.63	4,158.19	983.44
	2013	0	2,097.26	1,456.58	293.18	3,847.02	0	3,677.94	163.79	1,136.55	185.73	9.52	5,173.53	1,326.51
	2014	806.27	857.73	1,536.10	311.20	3,511.30	0	3,867.19	152.02	888.93	313.42	16.71	5,238.27	1,726.97
	2015	99.79	1,939.31	308.95	344.73	2,692.78	0	4,047.43	187.35	210.20	389.61	4.36	4,838.95	2,146.17
Asian Paints	2011	3.98	931.89	464.5	274.75	1,675.12	341	1,071.76	355.56	509.01	84.79	91.45	2,453.57	778.45
	2012	110.51	1,069.06	755.44	355.07	2,290.08	263	1,264.42	500.24	500.97	153.69	95.27	2,777.59	487.51
	2013	0	1,214.12	720.99	423.55	2,358.66	90	1,480.79	633.88	566.86	164.08	105.65	3,041.26	682.60
	2014	0	1,498.84	747.52	537.48	2,783.84	482	1,665.05	712.36	745.36	201.54	176.1	3,982.41	1,198.57
	2015	0	1,313.08	832.71	612.03	2,757.82	1,118.06	1,802.18	728.87	61.81	205.43	252.92	4,169.27	1,411.45
Apollo Tyres	2011	836.07	742.91	481.06	181.70	2,241.74	0	1,136.33	204.28	141.26	211.16	0	1,693.03	(548.71)
	2012	751.25	816.09	410.94	173.39	2,151.67	0	1,111.42	363.91	115.59	249.21	0	1,840.13	(311.54)
	2013	539.42	600.10	462.56	191.09	1,793.17	0	1,120.83	273.14	154.19	186.97	0.07	1,735.20	(57.97)
	2014	180.67	898.34	890.74	284.78	2,254.53	0	1,283.69	240.55	221.11	244.58	37.61	2,027.54	(226.99)
	2015	462.66	662.18	561.69	403.25	2,089.78	100.00	1,185.19	320.01	207.84	168.12	37.60	2,018.76	(71.02)
Jindal Steel	2011	4,081.99	709.00	2,632.13	1,887.85	9,310.97	0	2,204.12	737.12	43.71	3,929.92	319.87	7,234.74	(2,076.23)
	2012	5,878.54	998.31	3,661.53	2,452.63	12,991.01	0	3,051.31	905.06	30.94	4,806.29	307.64	9,101.24	(3,889.77)
	2013	7,640.02	628.2	2,584.39	2,951.85	13,804.46	0	3,598.52	1,426.13	36.77	5,943.54	608.11	11,613.07	(2,191.39)
	2014	9,146.13	1,637.34	3,454.95	3,265.97	17,504.39	0	3,936.25	1,460.96	762.00	6,543.65	557.44	13,260.30	(4,244.09)
	2015	7,607.63	1,443.02	4,073.07	92.88	13,216.60	1,000.00	3,720.03	1,321.27	288.97	4,504.04	753.77	11,588.08	(1,628.52)
Bombay Dyeing	2011	324.44	188.58	510.11	21.41	1,044.54	0	1,031.72	119.85	21.02	207.25	73.48	1,453.32	408.78
	2012	303.83	342.83	607.94	28.82	1,283.42	0	1,549.73	137.59	33.31	184.76	538.2	2,443.59	1,160.17
	2013	401.96	586.53	494.47	28.56	1,511.52	0	1,285.99	216.80	42.55	161.01	887.46	2,593.81	1,082.29
	2014	512.11	640.6	514.54	55.90	1,723.15	0	718.72	195.80	28.23	157.33	471.62	1,571.70	(151.45)
	2015	430.50	480.75	540.21	42.47	1,493.93	0	710.27	264.79	68.42	221.01	531.70	1,796.19	302.26
Mean		1,604.71	1,022.76	1,233.80	625.19	4,486.46	135.76	2,055.74	475.92	354.91	1,185.04	236.99	4,444.36	(42.10)

Source: Compiled by Researcher

Inferences

On analyzing the working capital items of selected five companies from the manufacturing sector for the financial year ended 31st March, 2011 to 31st March, 2015 it can be inferred that the working capital gap (Current Assets minus Current Liabilities) is positive in case of two companies, viz. Titan and Asian Paints; is negative in case of two companies, viz. Apollo Tyres and Jindal Steel; and in case of Bombay Dyeing it is positive in four years and negative in one year. The mean result indicates a negative working capital gap which means that the current liabilities exceed the investment in current assets by Rs. 42.10 crores. Thus

the hypothesis “Working Capital gap is positive” is rejected in case of the select sample companies of the manufacturing sector. Hence the alternative hypothesis “Working Capital gap is negative” is to be accepted in this case.

Table 2: Analysis of Working Capital Items of Manufacturing Sector Companies as Percentage of Current Assets and Current Liabilities

Company Name	YE 31st March	CURRENT LIABILITIES (Sources of Short Term Funds)					CURRENT ASSETS (Application of Short Term Funds)						
		Short Term Borrowings	Trade Payables	Other Current Liabilities	Short Term Provisions	Total Current Liabilities	Current Investments	Inventories	Trade Receivables	Cash & Cash Equivalents	Short Term Loans &	Advances Other Current Assets	Total Current Assets
Titan	2011	0	57.35	35.93	6.73	100	0	60.32	3.44	33.18	2.59	0.47	100
	2012	0	55.13	37.42	7.46	100	0	69.23	3.92	23.10	2.96	0.78	100
	2013	0	54.52	37.86	7.62	100	0	71.09	3.17	21.97	3.59	0.18	100
	2014	22.96	24.43	43.75	8.86	100	0	73.83	2.90	16.97	5.98	0.32	100
	2015	3.71	72.02	11.47	12.80	100	0	83.64	3.87	4.34	8.05	0.09	100
Asian Paints	2011	0.24	55.63	27.73	16.40	100	13.90	43.68	14.49	20.75	3.46	3.73	100
	2012	4.83	46.68	32.99	15.50	100	9.47	45.52	18.01	18.04	5.53	3.43	100
	2013	0.00	51.47	30.57	17.96	100	2.96	48.69	20.84	18.64	5.40	3.47	100
	2014	0.00	53.84	26.85	19.31	100	12.10	41.81	17.89	18.72	5.06	4.42	100
	2015	0.00	47.61	30.19	22.19	100	26.82	43.23	17.48	1.48	4.93	6.07	100
Apollo Tyres	2011	37.30	33.14	21.46	8.11	100	0	67.12	12.07	8.34	12.47	0.00	100
	2012	34.91	37.93	19.10	8.06	100	0	60.40	19.78	6.28	13.54	0.00	100
	2013	30.08	33.47	25.80	10.66	100	0	64.59	15.74	8.89	10.78	0.00	100
	2014	8.01	39.85	39.51	12.63	100	0	63.31	11.86	10.91	12.06	1.85	100
	2015	22.14	31.69	26.88	19.30	100	4.95	58.71	15.85	10.30	8.33	1.86	100
Jindal Steel	2011	43.84	7.61	28.27	20.28	100	0	30.47	10.19	0.60	54.32	4.42	100
	2012	45.25	7.68	28.19	18.88	100	0	33.53	9.94	0.34	52.81	3.38	100
	2013	55.34	4.55	18.72	21.38	100	0	30.99	12.28	0.32	51.18	5.24	100
	2014	52.25	9.35	19.74	18.66	100	0	29.68	11.02	5.75	49.35	4.20	100
	2015	57.56	10.92	30.82	0.70	100	8.63	32.10	11.40	2.49	38.87	6.50	100
Bombay Dyeing	2011	31.06	18.05	48.84	2.05	100	0	70.99	8.25	1.45	14.26	5.06	100
	2012	23.67	26.71	47.37	2.25	100	0	63.42	5.63	1.36	7.56	22.02	100
	2013	26.59	38.80	32.71	1.89	100	0	49.58	8.36	1.64	6.21	34.21	100
	2014	29.72	37.18	29.86	3.24	100	0	45.73	12.46	1.80	10.01	30.01	100
	2015	28.82	32.18	36.16	2.84	100	0	39.54	14.74	3.81	12.30	29.60	100
Mean		35.77	22.80	27.50	13.94	100	3.05	46.25	10.71	7.99	26.66	5.33	100

Source: Compiled by Researcher

Inferences

After converting the financial data of Table-1 in percentage form and then analyzing it the following inferences can be drawn as shown in Table 2-A:

Table-2-A: Individual Working Capital Component showing the Highest Investment

Company Name	Maximum Current Assets	Maximum Current Liabilities
Titan	Inventories	Trade Payables in 4 years and Other Current Liabilities in 1 year
Asian Paints	Inventories	Trade Payables Trade Payables in 4 years and Short Term
Apollo Tyres	Inventories	Borrowings in 1 year
Jindal Steel	Short Term Loans and Advances	Short Term Borrowings Trade Payables in 2 years and Other Current
Bombay Dyeing	Inventories	Liabilities in 3 years
Mean	Inventories	Short Term Borrowings
Overall Conclusion	Inventories in 4 Companies	Trade Payables in 3 Companies

Source: Compiled by Researcher

Table-3: Ranks assigned to Working Capital Components of Manufacturing Sector Companies

Company Name	YE 31st March 2011 to 2015	CURRENT LIABILITIES (Sources of Short Term Funds)					CURRENT ASSETS (Application of Short Term Funds)						
		Short Term Borrowings	Trade Payables	Other Current Liabilities	Short Term Provisions	Total Current Liabilities	Current Investments	Inventories	Trade Receivables	Cash & Cash Equivalents	Short Term Loans & Advances	Other Current Assets	Total Current Assets
Titan	Mean (Rs. Cr.)	181.21	1,633.43	1,088.69	272.87	3,176.20	0	3,293.01	155.99	858.54	219.52	15.76	4,542.83
	Percentage	5.71	51.43	34.28	8.59	100	0	72.49	3.43	18.90	4.83	0.35	100
	Rank	4	1	2	3	N.A.	6	1	4	2	3	5	N.A.
Asian Paints	Mean (Rs. Cr.)	22.90	1,205.40	704.23	440.58	2,373.10	458.81	1,456.84	586.18	476.80	161.91	144.28	3,284.82
	Percentage	0.96	50.79	29.68	18.57	100	13.97	44.35	17.85	14.52	4.93	4.39	100
	Rank	4	1	2	3	N.A.	4	1	2	3	5	6	N.A.
Apollo Tyres	Mean (Rs. Cr.)	554.01	743.92	561.40	246.84	2,106.18	20.00	1,167.49	280.38	168.00	212.01	15.06	1,862.93
	Percentage	26.30	35.32	26.65	11.72	100	1.07	62.67	15.05	9.02	11.38	0.81	100
	Rank	3	1	2	4	N.A.	5	1	2	4	3	6	N.A.
Jindal Steel	Mean (Rs. Cr.)	6,870.86	1,083.17	3,281.21	2,130.24	13,365.49	200.00	3,302.05	1,170.11	232.48	5,145.49	509.37	10,559.49
	Percentage	51.41	8.10	24.55	15.94	100	1.89	31.27	11.08	2.20	48.73	4.82	100
	Rank	1	4	2	3	N.A.	6	2	3	5	1	4	N.A.
Bombay Dyeing	Mean (Rs. Cr.)	394.57	447.86	533.45	35.43	1,411.31	0	1,059.29	186.97	38.71	186.27	500.49	1,971.72
	Percentage	27.96	31.73	37.80	2.51	100	0	53.72	9.48	1.96	9.45	25.38	100
	Rank	3	2	1	4	N.A.	6	1	3	5	4	2	N.A.
Median of Ranks		3	1	2	3	N.A.	5	1	3	4	3	5	N.A.

Source: Compiled by Researcher

Inferences

On the basis of ranks assigned to working capital components the following inferences can be drawn as shown in Table 3-A:

Table-3-A: Component of Working Capital of Manufacturing Sector Companies assigned First Rank

Company Name	Current Assets	Current Liabilities
Titan	Inventories	Trade Payables
Asian Paints	Inventories	Trade Payables
Apollo Tyres	Inventories	Trade Payables
Jindal Steel	Short Term Loans and Advances	Short Term Borrowings
Bombay Dyeing	Inventories	Other Current Liabilities
Median of Ranks	Inventories	Trade Payables

Source: Compiled by Researcher

Same inference observed as revealed in Table 3-A as indicated in Table 2-A. Inventories in four companies and Trade Payables in three companies are assigned Rank-One.

Table 4: Financial Data of Working Capital Items of Service Sector Companies

(Rs. in Crores)

Source: Compiled by Researcher

Company Name	YE 31st March	CURRENT LIABILITIES (Sources of Short Term Funds)					CURRENT ASSETS (Application of Short Term Funds)							Working Capital (CA minus CL)
		Short Term Borrowings	Trade Payables	Other Current Liabilities	Short Term Provisions	Total Current Liabilities	Current Investments	Inventories	Trade Receivables	Cash & Cash Equivalents	Short Term Loans & Advances	Other Current Assets	Total Current Assets	
SpiceJet	2011	55.00	268.75	436.89	2.65	763.29	0	20.35	17.18	14.00	215.94	14.37	281.84	(481.45)
	2012	205.00	470.13	691.58	6.57	1,373.28	0	31.65	20.41	235.91	133.46	12.88	434.31	(938.97)
	2013	248.15	789.04	788.68	5.42	1,831.29	0	45.62	105.03	217.08	190.50	227.43	785.66	(1,045.63)
	2014	280.00	1,040.38	1,236.14	5.65	2,562.17	0	45.15	155.74	5.06	122.86	133.22	462.03	(2,100.14)
	2015	298.59	1,010.52	897.92	335.29	2,542.32	0	45.12	121.68	23.58	413.81	22.70	626.89	(1,915.43)
Gati	2011	130.25	31.55	211.30	53.43	426.53	0	10.08	161.95	21.48	190.98	0	384.49	(42.04)
	2012	10.00	2.03	18.90	53.30	84.23	0	0	25.73	51.98	136.12	0	213.83	129.60
	2013	8.04	10.40	46.44	26.11	90.99	0	1.21	28.11	13.17	194.80	0	237.29	146.30
	2014	13.76	26.81	57.01	16.76	114.34	0	1.57	37.91	13.06	117.22	0	169.76	55.42
	2015	28.71	25.16	68.64	18.45	140.96	0	0.91	62.63	12.52	108.09	0	184.15	43.19
Infosys	2011	0	0	1,880.00	2,473.00	4,353.00	0	0	4,212.00	13,665.00	3,617.00	1,500.00	22,994.00	18,641.00
	2012	0	0	2,454.00	3,604.00	6,058.00	0	0	5,404.00	18,057.00	4,594.00	1,513.00	29,568.00	23,510.00
	2013	0	178.00	2,827.00	3,788.00	6,793.00	1,580.00	0	6,365.00	20,401.00	2,175.00	2,217.00	32,738.00	25,945.00
	2014	0	68.00	4,071.00	6,117.00	10,256.00	2,749.00	0	7,336.00	24,100.00	2,660.00	2,392.00	39,237.00	28,981.00
	2015	0	124.00	5,546.00	8,045.00	13,715.00	749.00	0	8,627.00	27,722.00	3,231.00	2,423.00	42,752.00	29,037.00
Bharti Airtel	2011	2,764.40	4,959.80	8,609.70	527.40	16,861.30	107.90	34.40	1,461.90	133.20	2,546.40	1,026.70	5,310.50	(11,550.80)
	2012	5,895.60	4,512.10	8,200.00	557.00	19,164.70	533.70	32.10	2,134.50	481.20	9,810.10	1,052.00	14,043.60	(5,121.10)
	2013	3,139.00	5,137.20	10,603.40	546.10	19,425.70	1,080.00	2.10	2,246.80	362.70	1,413.30	1,098.90	6,203.80	(13,221.90)
	2014	1,251.00	6,266.30	10,645.40	945.30	19,108.00	489.10	1.10	2,165.50	446.00	2,421.80	1,215.30	6,738.80	(12,369.20)
	2015	625.90	7,123.20	14,067.50	1,234.90	23,051.50	4,721.10	9.40	3,311.00	388.70	5,394.20	932.00	14,756.40	(8,295.10)
Essar Shipping	2011	185.98	69.35	144.98	0.01	400.32	0	25.27	114.05	19.31	364.04	20.86	543.53	143.21
	2012	233.75	131.87	224.87	31.80	622.29	0	40.89	119.34	19.94	181.32	24.54	386.03	(236.26)
	2013	135.72	229.97	364.28	8.55	738.52	0.10	37.31	61.14	15.93	219.19	62.52	396.19	(342.33)
	2014	156.75	197.17	512.53	6.83	873.28	0.10	22.72	53.66	33.74	214.00	134.87	459.09	(414.19)
	2015	175.68	241.73	2,134.93	5.52	2,557.86	1,099.03	14.18	68.90	24.40	414.57	142.09	1,763.17	(794.69)
Mean		633.65	1,316.54	3,069.56	1,136.56	6,156.31	524.36	16.85	1,776.69	4,259.12	1,643.19	646.62	8,866.81	2,710.50

Inferences

On analyzing the working capital items of select five companies from the service sector for the financial year ended 31st March, 2011 to 31st March, 2015 it can be inferred that the working capital gap (Current Assets minus Current Liabilities) is positive in case of one company, viz. Infosys; is negative in case of two companies, viz. SpiceJet and Bharti Airtel; in case of Gati it is positive in four years and negative in one year; and in case of Essar Shipping it is positive in one year and negative in four years. The mean result indicates a positive working capital gap which means that the investment in current assets exceed the current liabilities by Rs. 2,710.50crores. Thus the researcher failed to reject the null hypothesis, "Working Capital gap is positive" in case of the select sample companies of the service sector.

Table-5: Analysis of Working Capital Items of Service Sector Companies as Percentage of Current Assets and Current Liabilities

Company Name	YE 31st March	CURRENT LIABILITIES (Sources of Short Term Funds)					CURRENT ASSETS (Application of Short Term Funds)							
		Short Term Borrowings	Trade Payables	Other Current Liabilities	Short Term Provisions	Total Current Liabilities	Current Investments	Inventories	Trade Receivables	Cash & Cash Equivalents	Short Term Loans & Advances	Other Current Assets	Total Current Assets	
SpiceJet	2011	7.21	35.21	57.24	0.35	100	0.00	7.22	6.10	4.97	76.62	5.10	100	
	2012	14.93	34.23	50.36	0.48	100	0.00	7.29	4.70	54.32	30.73	2.97	100	
	2013	13.55	43.09	43.07	0.30	100	0.00	5.81	13.37	27.63	24.25	28.95	100	
	2014	10.93	40.61	48.25	0.22	100	0.00	9.77	33.71	1.10	26.59	28.83	100	
	2015	11.74	39.75	35.32	13.19	100	0.00	7.20	19.41	3.76	66.01	3.62	100	
Gati	2011	30.54	7.40	49.54	12.53	100	0.00	2.62	42.12	5.59	49.67	0	100	
	2012	11.87	2.41	22.44	63.28	100	0.00	0	12.03	24.31	63.66	0	100	
	2013	8.84	11.43	51.04	28.70	100	0.00	0.51	11.85	5.55	82.09	0	100	
	2014	12.03	23.45	49.86	14.66	100	0.00	0.92	22.33	7.69	69.05	0	100	
	2015	20.37	17.85	48.69	13.09	100	0.00	0.49	34.01	6.80	58.70	0	100	
Infosys	2011	0	0	43.19	56.81	100	0.00	0	18.32	59.43	15.73	6.52	100	
	2012	0	0	40.51	59.49	100	0.00	0	18.28	61.07	15.54	5.12	100	
	2013	0	2.62	41.62	55.76	100	4.83	0	19.44	62.32	6.64	6.77	100	
	2014	0	0.66	39.69	59.64	100	7.01	0	18.70	61.42	6.78	6.10	100	
	2015	0	0.90	40.44	58.66	100	1.75	0	20.18	64.84	7.56	5.67	100	
Bharti Airtel	2011	16.39	29.42	51.06	3.13	100	2.03	0.65	27.53	2.51	47.95	19.33	100	
	2012	30.76	23.54	42.79	2.91	100	3.80	0.23	15.20	3.43	69.85	7.49	100	
	2013	16.16	26.45	54.58	2.81	100	17.41	0.03	36.22	5.85	22.78	17.71	100	
	2014	6.55	32.79	55.71	4.95	100	7.26	0.02	32.13	6.62	35.94	18.03	100	
	2015	2.72	30.90	61.03	5.36	100	31.99	0.06	22.44	2.63	36.55	6.32	100	
Essar Shipping	2011	46.46	17.32	36.22	0	100	0.00	4.65	20.98	3.55	66.98	3.84	100	
	2012	37.56	21.19	36.14	5.11	100	0.00	10.59	30.91	5.17	46.97	6.36	100	
	2013	18.38	31.14	49.33	1.16	100	0.03	9.42	15.43	4.02	55.32	15.78	100	
	2014	17.95	22.58	58.69	0.78	100	0.02	4.95	11.69	7.35	46.61	29.38	100	
	2015	6.87	9.45	83.47	0.22	100	62.33	0.80	3.91	1.38	23.51	8.06	100	
Mean		10.29	21.39	49.86	18.46	100	5.91	0.19	20.04	48.03	18.53	7.29	100	

Source: Compiled by Researcher

Inferences

After converting the financial data of Table-4 in percentage form and then analyzing it the following inferences can be drawn as shown in Table 5-A:

Table-5-A: Individual Working Capital Component showing the Highest Investment

Company Name	Maximum Current Assets	Maximum Current Liabilities
SpiceJet	Short Term Loans and Advances for 3 years and Cash and Cash Equivalents for 2 years	Other Current Liabilities for 4 years and Trade Payables for 1 year
Gati	Short Term Loans and Advances	Other Current Liabilities for 4 years and Short Term Provisions for 1 year
Infosys	Cash and Cash Equivalents	Short Term Provisions
Bharti Airtel	Short Term Loans and Advances for 4 years and Trade Receivables for 1 year	Other Current Liabilities
Essar Shipping	Short Term Loans and Advances for 4 years and Current Investments for 1 year	Other Current Liabilities for 3 years and Short Term Borrowings for 2 years
Mean	Cash and Cash Equivalents	Other Current Liabilities
Overall Conclusion	Short Term Loans and Advances in 4 Companies	Other Current Liabilities in 4 Companies

Source: Compiled by Researcher

Table-6: Ranks assigned to Working Capital Components of Service Sector Companies

Company Name	YE 31st March 2011 to 2015	CURRENT LIABILITIES (Sources of Short Term Funds)					CURRENT ASSETS (Application of Short Term Funds)						
		Short Term Borrowings	Trade Payables	Other Current Liabilities	Short Term Provisions	Total Current Liabilities	Current Investments	Inventories	Trade Receivables	Cash & Cash Equivalents	Short Term Loans & Advances	Other Current Assets	Total Current Assets
SpiceJet	Mean (Rs.Cr.)	217.35	715.76	810.24	71.12	1,814.47	-	37.58	84.01	99.13	215.31	82.12	518.15
	Percentage	11.98	39.45	44.65	3.92	100	0	7.25	16.21	19.13	41.55	15.85	100
	Rank	3	2	1	4	N.A.	6	5	3	2	1	4	N.A.
Gati	Mean (Rs.Cr.)	38.15	19.19	80.46	33.61	171.41	-	2.75	63.27	22.44	149.44	-	237.90
	Percentage	22.26	11.20	46.94	19.61	100	0	1.16	26.59	9.43	62.82	0	100
	Rank	2	4	1	3	N.A.	5	4	2	3	1	5	N.A.
Infosys	Mean (Rs.Cr.)	0	74.00	3,355.60	4,805.40	8,235.00	1,015.60	0	6,388.80	20,789.0	3,255.40	2,009.00	33,457.80
	Percentage	0	0.90	40.75	58.35	100	3.04	0	19.10	62.13	9.73	6.00	100
	Rank	4	3	2	1	N.A.	5	6	2	1	3	4	N.A.
Bharti Airtel	Mean (Rs.Cr.)	2,735.18	5,599.72	10,425.20	762.14	19,522.24	1,386.36	15.82	2,263.94	362.36	4,317.16	1,064.98	9,410.62
	Percentage	14.01	28.68	53.40	3.90	100	14.73	0.17	24.06	3.85	45.88	11.32	100
	Rank	3	2	1	4	N.A.	3	6	2	5	1	4	N.A.
Essar Shipping	Mean (Rs.Cr.)	177.58	174.02	676.32	10.54	1,038.45	219.85	28.07	83.42	22.66	278.62	76.98	709.60
	Percentage	17.10	16.76	65.13	1.02	100	30.98	3.96	11.76	3.19	39.26	10.85	100
	Rank	2	3	1	4	N.A.	2	5	3	6	1	4	N.A.
Median of Ranks		3	3	1	4	N.A.	5	5	2	3	1	4	N.A.

Source: Compiled by Researcher

Inferences

On the basis of ranks assigned to working capital components the following inferences can be drawn as shown in Table 6-A:

Table-6-A: Component of Working Capital of Manufacturing Sector Companies assigned First Rank

Company Name	Current Assets	Current Liabilities
SpiceJet	Short Term Loans and Advances	Other Current Liabilities
Gati	Short Term Loans and Advances	Other Current Liabilities
Infosys	Cash and Cash Equivalents	Short Term Provisions
Bharti Airtel	Short Term Loans and Advances	Other Current Liabilities
Essar Shipping	Short Term Loans and Advances	Other Current Liabilities
Median of Ranks	Short Term Loans and Advances	Other Current Liabilities

Source: Compiled by Researcher

Same inference observed as revealed in Table 6-A as indicated in Table 5-A. Short Term Loans and advances in four companies and Other Current Liabilities in four companies are assigned Rank-One.

Table-7: Correlation between Working Capital and Operating Profit – Manufacturing Sector

Company Name	YE 31st March	Working Capital (Rs. Cr.)	Operating Profit (Rs. Cr.)	Correlation	Remarks
Titan	2011	650.03	599.00	+ 0.89	Strong Positive Linear Relationship
	2012	983.44	838.44		
	2013	1,326.51	1,006.27		
	2014	1,726.97	1,015.93		
	2015	2,146.17	1,055.89		
Asian Paints	2011	778.45	1,122.33	+ 0.80	Strong Positive Linear Relationship
	2012	487.51	1,362.93		
	2013	682.60	1,515.88		
	2014	1,198.57	1,712.53		
	2015	1,411.45	1,947.10		
Apollo Tyres	2011	(548.71)	263.55	+ 0.69	Strong Positive Linear Relationship
	2012	(311.54)	257.51		
	2013	(57.97)	474.52		
	2014	(226.99)	685.49		
	2015	(71.02)	934.14		
Jindal Steel	2011	(2,076.23)	2,752.94	0.35	Weak Negative Linear Relationship
	2012	(3,889.77)	2,843.01		
	2013	(2,191.39)	2,228.50		
	2014	(4,244.09)	1,600.64		
	2015	(1,628.52)	168.36		
Bombay Dyeing	2011	408.78	26.37	+ 0.86	Strong Positive Linear Relationship
	2012	1,160.17	74.85		
	2013	1,082.29	97.81		
	2014	(151.45)	33.14		
	2015	302.26	34.94		

Source: Compiled by Researcher

Operating Profit means Profit/Loss Before Exceptional, Extra Ordinary Items and Tax = Total Revenue - Total Expenses (including Finance Costs + Depreciation and Amortisation Expenses)

Inferences

The results of Karl Pearson's Coefficient of Correlation between Working Capital and Operating Profit of the Manufacturing Sector Companies reveals that there is a Strong Positive Linear Relationship in four companies and only in one company it reveals a Negative Linear Relationship. Hence the researcher has rejected the null hypothesis, "There is no relationship between working capital (liquidity) and Operating Profit (profitability)". Hence the alternative hypothesis, "There is a relationship between working capital (liquidity) and Operating Profit (profitability)" is accepted.

Table-8: Correlation between Working Capital and Operating Profit – Service Sector

Company Name	YE 31st March	Working Capital (Rs. Cr.)	Operating Profit (Rs. Cr.)	Correlation	Remarks
SpiceJet	2011	(481.45)	128.17	+ 0.90	Strong Positive Linear Relationship
	2012	(938.97)	(605.77)		
	2013	(1,045.63)	(233.74)		
	2014	(2,100.14)	(1,003.24)		
	2015	(1,915.43)	(748.41)		
Gati	2011	(42.04)	22.95	+ 0.39	Weak Positive Linear Relationship
	2012	129.60	95.45		
	2013	146.30	16.18		
	2014	55.42	12.87		
	2015	43.19	28.64		
Infosys	2011	18,641.00	8,821.00	+ 0.94	Strong Positive Linear Relationship
	2012	23,510.00	11,096.00		
	2013	25,945.00	12,274.00		
	2014	28,981.00	14,002.00		
	2015	29,037.00	16,386.00		
Bharti Airtel	2011	(11,550.80)	8,725.80	+ 0.22	Weak Positive Linear Relationship
	2012	(5,121.10)	6,956.20		
	2013	(13,221.90)	6,454.80		
	2014	(12,369.20)	8,584.50		
	2015	(8,295.10)	15,655.30		
Essar Shipping	2011	143.21	79.67	+ 0.58	Moderate Positive Relationship
	2012	(236.26)	97.47		
	2013	(342.33)	(39.85)		
	2014	(414.19)	(225.67)		
	2015	(794.69)	(78.50)		

Source: Compiled by Researcher

Inferences

The results of Karl Pearson's Correlation Coefficient between Working Capital and Operating Profit of the Service Sector companies reveals that there is a Positive Linear Relationship in all the sample companies. Hence the researcher has rejected the null hypothesis, "There is no relationship between working capital (liquidity) and Operating Profit (profitability)". Hence the alternative hypothesis, "There is a relationship between working capital (liquidity) and Operating Profit (profitability)" is accepted.

Limitations of the Study

- (a) The study is short term period of five accounting year from 2011 to 2015.
- (b) The main constraint of this study is considered as the data used is secondary.
- (c) The data was collected based on the company annual report. Hence its accuracy depends on honesty in reporting of accounting information.

Epilogue

Judicious management of various components of working capital can result in prosperity to any organization and mismanagement of working capital can mar the future prospects of the business. There are several myths associated with working capital management and this study has made a humble attempt to dwell upon a few of such myths successfully.

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