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# UTILIZATION OF WORKING CAPITAL IN BPCL: A CASE STUDY

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## ABSTRACT

*At present in the commercial world, every enterprise has to maintain an adequate amount of working capital to meet its daily business needs. The working capital, being the life blood of the business, a study is necessary as to whether the working capital is properly utilized. Much efficiency is needed on the part of management to concentrate on the daily requirements of running the business. Otherwise, the business comes to standstill when the concern is not able to meet its unexpected demands posed in the competitive world. This paper concentrates on utilization of components of working capital in BPCL.*

**KEYWORDS: BPCL, Working Capital Utilization, Working Capital Index, Performance Index, Utilization Index, Efficiency Index**

## INTRODUCTION

Working capital utilization of BPCL is studied through the analysis of the components of working capital. For the survival of any business unit, it has to maintain its current assets and payment of current liabilities under proper control. If not, it may lead to the closure of the business unit and later the utilization of fixed assets also gets winded up. BPCL is taken for the study.

## STATEMENT OF THE PROBLEM

At present, in the competitive world, the oil and gas companies are facing the problem of shortage of raw materials, power and availability of finance to suit the urgent needs of the customer requirements. Such issues arise due to not properly not utilizing the working capital of the business. Hence, the present study is undertaken to find out whether the working capital is properly utilized or not by BPCL.

## **OBJECTIVES OF THE STUDY**

- (i) To find out the effective utilization of daily capital requirements of the business
- (ii) To offer recommendations and suggestions for the improvement of the working capital position of BPCL

## **METHODOLOGY**

The methodology adopted for the research helps to solve the problem undertaken during the study. The data for the research is taken from the annual reports of BPCL. The period of 10 years from 2011-2012 to 2020-2021 is taken for the research.

## **FRAMEWORK OF ANALYSIS**

The working capital is analysed through Working Capital Index which takes the forms of Utilization Index, Performance Index and Efficiency Index

## **SOURCE OF DATA**

The annual reports of BPCL is utilized for the data source, the secondary data for the research. The data is for the period from 2011-2012 to 2020-2021.

## **SCOPE OF THE STUDY**

The research is done for the study of the utilization of the working capital of BPCL. Various factors influencing the limit of working capital namely current ratio, debtor's ratio, inventory ratio are studied, whereas the present study can be extended to the coverage of oil and gas companies in private sector or particularly public sector. Further the study can also be extended to the study of the analysis of fixed assets position analysis in the oil and gas companies in the public sector. The study of the corporate social responsibility assumed by the Indian oil and gas companies can also be undertaken.

## **TOOLS FOR ANALYSIS**

The working capital index in the form of Performance Index (PI), Utilization Index (UI) denoted and Efficiency Index referred (EI)

### **PERFORMANCE INDEX (PI)**

The ratio between the changes in the sales and the rate of change in the current assets is termed as PI. The components of working capital are taken into account and it taken to the comparison of the sales.

### **UTILIZATION INDEX (UI)**

The UI expresses the level of utilization of the working capital during a particular year.

### **EFFICIENCY INDEX (EI)**

EI is the product of PI and UI

### **STRUCTURE MODEL:**

Utilization Index in Current Assets

As per the objectives, UI of the current assets of BPCL is calculated as per the formula given as under:

$$UI_{CA} = \frac{St}{St - 1} \times \frac{CA_{t-1}}{CA_t}$$

Where,  $UI_{CA}$  = Utilization Index for Current Assets

$St$  = Sales revenue at period 'T'

$CA$  = Current Assets at period 'T'

Other method:

$$UI \text{ of } CA = \frac{\text{Sales in the Current Year}}{\text{Sales in the Previous Year}} \times \frac{\text{Current Assets in the previous year}}{\text{Current Assets in the current year}}$$

If the utilization index is more than one ( $UI > 1$ ), then it is deduced that the current assets are properly utilized and vice versa.

### **PERFORMANCE INDEX:**

PI shows the effective utilization of current assets with reference to sales.. If the sales proportionately increase in relation to working capital, then it is understood that the concern is performing well and the current assets are properly supplied in order to meet the demand in sales.

If PI is more than one ( $PI > 1$ ), then it is understood that the working capital is properly utilized towards the supply of current assets necessary for day-to-day business activities and vice versa.

$$PI = \frac{\text{Sales in the Current Year}}{\text{Sales in the Previous Year}} \times \frac{\text{Working capital in the previous year}}{\text{Working capital in the current year}}$$

### **EFFICIENCY INDEX:**

The product of both of UI and PI is referred as the Efficiency Index which studies the measure of the efficiency in the working capital management. If EI is greater than one ( $EI > 1$ ), then it is understood that there is an efficient management of the current assets and vice versa.

$$EI_{ECM} = UI_{WCM} \times PI_{WCM}$$

Where,

$UI_{WCM}$  = Utilization index in working capital management

$PI_{WCM}$  = Utilization index in working capital management

$EI_{ECM}$  = Efficiency index in working capital management

## RESULTS AND DISCUSSION

**TABLE – 1 COMPONENTS OF WORKING CAPITAL INDEX - BPCL (RS. IN CRS)**

VARIABLES	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Net Sales	232,545.12	284,382.95	297,275.05	236,421.41	202,210.57	189,303.33	238,086.90	260,060.53	240,115.75	211,972.97
TURNOVER INDEX (TI)	1.42	1.22	1.05	0.80	0.86	0.94	1.26	1.09	0.92	0.88
Current Assets	50,962.30	41,063.23	46,637.25	37,002.50	34,258.12	28,075.57	30,285.46	39,651.90	38,389.81	39,445.33
CA/SALES	0.22	0.14	0.16	0.16	0.17	0.15	0.13	0.15	0.16	0.19
UTILISATION INDEX (UI)	1.96	0.66	1.09	1.00	1.08	0.88	0.86	1.20	1.05	1.16
Inventories	26,756.75	20,421.06	21,544.65	20,874.57	19,798.01	13,696.28	14,457.85	19,071.13	16,690.37	15,948.06
Receivables	7,827.47	5,164.34	6,670.72	5,151.73	4,758.18	2,165.02	2,607.67	4,080.16	4,025.13	6,378.34
Cash and Bank Balance	7,053.49	115.78	95.41	182.53	64.69	2,067.35	1,360.20	203.76	2,328.86	978.85
Short Term Loans and advances	137.9	590.58	1,628.88	71.02	70.65	1,030.81	748.39	941.35	1,244.98	787.34
Index - Inventories	1.74	0.76	1.06	0.97	0.95	0.69	1.06	1.32	0.88	0.96
Index - Receivables	0.00	0.66	1.29	0.77	0.92	0.46	1.20	1.56	0.99	1.58
Index - Cash and Bank Balance	18.61	0.02	0.82	1.91	0.35	31.96	0.66	0.15	11.43	0.42
Index - Loans and advances	0.02	4.28	2.76	0.04	0.99	14.59	0.73	1.26	1.32	0.63
Total of the indices	20.37	5.72	5.93	3.70	3.22	47.69	3.64	4.29	14.61	3.59
Indices - Average	5.09	1.43	1.48	0.92	0.81	11.92	0.91	1.07	3.65	0.90
PERFORMANCE INDEX (PI)	7.25	1.75	1.55	0.74	0.69	11.16	1.15	1.17	3.37	0.79
EFFICIENCY INDEX (EI)	14.19	1.15	1.68	0.73	0.75	9.77	0.98	1.40	3.54	0.92

From the Table 1, it is inferred that inventories, receivables, cash and bank balances, loans and advances for short term form the components of working capital. Utilization Index is calculated which shows that there are normal fluctuations during the period from 2011 – 2021. During the study period, it is observed that during the initial period (2012) the utilization index was much better ( $1.96 > 1$ ). During the year 2013, it is found that the current assets are not properly utilized. From 2013, it started growing up to 1.00 in 2014 and increasing trend till 2016 which is inferred that the concern took adequate measures to utilize the working capital to finance the current assets so as to meet the demands of the customers. Again, BPCL faced a fall in 2017 & 2018. From there it started to raise in the following years of 2020 & 2021. In the year, 2021, the Index rate is 1.16 which is good position as it is greater than 1 ( $1.16 > 1$ ). But still BPCL has to take care to see that the working capital in the form of inventory, receivables, loans and advances for short term.

At the outset, it is observed from the study that BPCL has to take initiative in framing the credit terms and policies, raising of necessary short term loans which should be properly financed out of working capital.

From the Table 1, it is inferred that the performance index is less than 1 ( $PI < 1$ ) during the years 2015, 2016 & 2021. In these years, the components of working capital namely inventory, cash and cash equivalents, receivables, short term loans and advances are not properly managed during those periods. BPCL had not taken proper steps to plan the availability of inventory, minimum level and also buffer stock to meet the exigencies. Hence, the working capital got blocked during the years 2015, 2016 & 2021. Further due to outbreak of COVID19, the business at the global level suffered a great set back. Hence, BPCL has to still plan to effectively it revolving capital properly and carefully.

From the Table 2 it is inferred that on an average the Utilization Index (UI), Performance Index (PI) and Efficiency Index (EI) of BPCL showed that the index is greater than 1 ( $> 1$ ) during the ten years period implying that at the outset BPCL has utilized its working capital very effectively, but in the last year 2021, Efficiency index is less than one ( $EI < 1$ ) which implies that due to outbreak of pandemic disease, the inventory get stocked and rather the concern experienced a slow movement of stock. In the years of 2016 & 2017, BPCL should have a great cautious steps to overcome the movement of components of working capital and also on the utilization of its components.



**TABLE - 2****Working Capital Index Abstract – BPCL**

<b>YEAR</b>	<b>UI</b>	<b>PI</b>	<b>EI</b>
2012	1.96	7.25	14.19
2013	0.66	1.75	1.15
2014	1.09	1.55	1.68
2015	1.00	0.74	0.73
2016	1.08	0.69	0.75
2017	0.88	11.16	9.77
2018	0.86	1.15	0.98
2019	1.20	1.17	1.40
2020	1.05	3.37	3.54
2021	1.16	0.79	0.92
Average	1.09	2.96	3.51
Maximum	1.96	11.16	14.19
Minimum	0.66	0.69	0.73

**TABLE - 3**

**BPCL - LIQUIDITY ORDER OF THE WORKING CAPITAL COMPONENTS DURING THE PERIOD OF STUDY (IN PERCENTAGE)**

YE A R	Inventor y Compon ent to CA	Investme nt to CA	Trade Receivables to CA	Cash & Cash Equivale nt to CA	Short Term Loans & Advanc es to CA	Other Curr ent Asset s to CA	Liquidity Ranking						Tot al Ran ks	Ran k Over all		
							1	2	3	4	5	6				
2012	13.33	52.50	15.36	13.84	0.27	4.69	4	8	9	10	3	1	35	6		
2013	12.68	49.73	12.58	0.28	1.44	23.29	3	7	5	3	4	7	29	1		
2014	10.88	46.20	14.30	0.20	3.49	24.92	1	3	8	2	9	9	32	3		
2015	13.50	56.41	13.92	0.49	0.19	15.48	6	9	7	4	1	4	31	2		
2016	15.65	57.79	13.89	0.19	0.21	12.28	8	10	6	1	2	2	29	1		
2017	18.16	48.78	7.71	7.36	3.67	14.31	10	6	1	9	10	3	39	8		
2018	16.80	47.74	8.61	4.49	2.47	19.88	9	4	2	7	7	5	34	5		
2019	11.62	48.10	10.29	0.51	2.37	27.10	2	5	3	5	6	10	31	2		
2020	13.44	43.48	10.48	6.07	3.24	23.29	5	2	4	8	8	6	33	4		
2021	15.08	40.43	16.17	2.48	2.00	23.84	7	1	10	6	5	8	37	7		
Average	14.12	49.12	12.33	3.59	1.94	18.91										
SD	2.28502111	5.366302433	2.897885676	4.478490427	1.361398458	7.038303										

From the Table 3, it is asserted that the liquidity position of BPCL is studied. The components of working capital is assigned with the ranks ranging from the years 2011 – 2021. It is found that in the year 2021 and 2017 liquidity position of BPCL as the components namely Inventory, short term investments, trade receivables, cash and cash equivalents and short term loans and advances have been properly contributed by the working capital efficiently and effectively, but during the years 2013 & 2016, the position was found to be very weak. Hence, at the outset, it is inferred that the BPCL is working from 2017 – 2021. Among the components, investment in Short term followed with the inventory contributed a lot towards building up of working capital.

From the Table – 4, it is found out that current ratio of BPCL on an average is 0.88 which implies that it is fair. On analysis of the Liquidity ratio position of BPCL it is assessed that the ratio found to be 0.45 on an average during the 10 years period from 2011-2021 which implies that is below the ideal ratio of 1:1. Hence the concern has to take steps to maintain the liquidity of the current assets through proper planning of inventory policies, trade policies regarding credit terms and payment/receipt of account receivables/payables.

From the study of Absolute liquid ratio of BPCL on an average, it is calculated as 0.71 nearing to the thumb rule of 1:1, but still it is although not in better position, it is in good position and further during the years 2014, 2016 & 2021 found to be better as it was able to realize the current assets quickly without loss of time value.

While analyzing the inventory position in relation to sales, it is found that the BPCL found to be weak in the years 2017 and 2018 only, but for the remaining years, it is found to be in a better position. Debtor's position of BPCL was found to be best during the years 2015 & 2016, 2013, 2014 & 2020. At the outset is found to be in a better position as it averaged out to 55.21.

Through the table it is revealed that the contribution of Current Assets to Total Assets is found be much better with an average of 0.16.

BPCL further averaged out to 7 days for debtor's collection period and 29 days on an average for inventory conversion. During the years of 2014 & 2015, the debtor's collection period was only 4 days which is a very favorable situation for BPCL and even its liquidity position got boosted during those years whereas in 2021, it is 12 days. Hence, the concern should still refine its credit terms and policies so as to retain its liquidity position

**TABLE - 4****STUDY OF LIQUIDITY POSITION OF BPCL THROUGH SELECT RATIOS**

<b>YEAR</b>	<b>CR</b>	<b>LR</b>	<b>ALR</b>	<b>ITR</b>	<b>DTR</b>	<b>CATA</b>	<b>CA to Total Sales</b>	<b>Inventory Conversion Period</b>	<b>Debtors Collection Period</b>
2012	0.93	0.50	0.64	13.28	33.22	0.60	0.19	28	11
2013	0.70	0.51	0.69	14.38	59.63	0.57	0.16	25	6
2014	0.99	0.53	0.75	13.63	63.71	0.55	0.15	27	6
2015	0.83	0.48	0.74	16.46	91.23	0.43	0.13	22	4
2016	0.79	0.45	0.76	13.81	87.34	0.37	0.15	27	4
2017	0.89	0.35	0.69	10.20	42.46	0.37	0.17	36	9
2018	0.93	0.38	0.70	11.28	45.72	0.37	0.16	32	8
2019	1.03	0.47	0.74	13.74	44.38	0.40	0.16	27	8
2020	0.90	0.43	0.53	13.87	54.84	0.32	0.14	26	7
2021	0.85	0.38	0.89	8.65	29.58	0.36	0.22	42	12
Average	0.88	0.45	0.71	12.93	55.21	0.44	0.16	29	7
SD	0.097	0.061	0.09	2.257	20.90	0.10	0.025	5.926	2.72

**CONCLUSION**

From the study of the working capital utilization, it is found that BPCL should concentrate on each constituent of working capital so as to maximize its profits and improve its liquidity position. Overall it is found satisfactory.

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