

## COMPARATIVE STUDY OF OPERATING CYCLE WITH REFERENCE TO MANUFACTURING COMPANIES

**Dr. Chavan Sachin U.<sup>1</sup> Dr. Khaladkar Manisha R.<sup>2</sup>**

1. Associate Professor, Zeal College of Engineering and Research Institute, Narhe, Pune, India, Email- sach\_2@gmail.com
  2. Associate Professor, Zeal Institute of Management and Computer Application, Narhe, Pune, India, Email- manisha.khaladkar77@gmail.com
- 

### ABSTRACT

The scope of working capital management is very huge. Working capital management plays very vital role in financial health of any organization at the present age, effective management of working capital is required for smooth functioning of enterprise. effective working capital management is totally based on the effective functioning of operating cycle. operating cycle totally deals with working capital management working capital management totally deals with the relation of current assets and current liabilities required for maintaining positive figures of working capital.

Operating cycle of business declares the relationship between cash raw material, work in progress, stock of finished goods ,inventory management, creditors and debtors of the organization .working capital structure of company is totally depends on the net operating cycle. And operating cycle is one of the essential element of manufacturing companies.

In this study i have understand the meaning of working capital management, operating cycle, operating cycle ratios, advantages and disadvantages of working capital and operating cycle and many more aspects.

Key Words – Operating Cycle, Cash Flow, Inventory management ,

### INTRODUCTION

The main objective of every business organization is profit maximization. every business organization earns profit by selling its products to end consumers for generating cash. generation of profits is depends upon the sales of company. and sales of company are increases when there is proper inventory management system adopted by company. inventory management system plays very vital role in smooth flow of business operations and generating higher amount of profits.

for sustaining sales activity sufficient amount of working capital is required. working capital deals with the current assets and current liabilities of business. working capital defines the amount of cash required for short term position of company. cash is one of the important element of working capital .without sufficient amount of cash there is not effective working capital management in business .cash is required for the purchase of raw material, conversion of raw material, inventory, debtors and creditors. hence having cash is one of the strong point of business.

cash cycle of business is also known as operating cycle. Operating cycle is also known as the heart of working capital management. the continue flow of cash from accounts to inventory to suppliers to accounts receivables to again cash is known as the operating cycle of business. the one of the important point of study is how company identifies its working capital requirements to perform day to day functioning.

working capital management is one of the most important part of financial or corporate management. it's a long term decision making system which directly effects on the profitability and liquidity also in risk .the main aim of working capital management is balance between short term assets and liabilities and maintains its perfect amount.

working capital management's deals with all types of problems that arises due to current assets and current liabilities. the word current assets means the assets which are ordinarily used in business. and they are convertible into cash for the period not more than one year.

current assets refers to cash and bank balance, bills receivables, debtors, inventory, stock of finished goods, marketable securities .the term current liabilities means obligation of company to the third parties .the word current liabilities includes creditors, bills payables, bank overdraft, amount of wages and salaries overheads etc.

the main motive of working capital management is bring current assets and current liabilities to the satisfactory level. if the firm fails to attain satisfactory level of current assets and current liabilities then it may became insolvent or bankrupt. the working capital is calculated by subtracting current assets from current liabilities

**Working Capital = Current Assets – Current Liabilities**

## **MEANING OF OPERATING CYCLE**

the main motive of financial decision making to maximization of financial health of company and profit and wealth maximization of enterprise. long term sustainability of organization is totally depends upon the amount of profits earned by company. profits earned by company is depends upon the selling of organization product. profits are directly related to the sales of company .if there is no sales then the organization will suffered from losses and faces many

problems in sustainability .hence the sales are main nerve of company which is required for maintaining good health of company. sales of company can not instantly converted into cash. here is time difference in sales and reception of money. hence there is requirement of operating system administration which deals with all types of difficulties crated out of require of instant recognition of goods sold .therefore the enough amount of working capital as well as well-organized operating cycle structure is requires for increases the sales activity.

there are three important phases of cash cycle

- translation of money/cash into the inventory
- translation of inventory into the accounts receivables
- translation of receivables into the cash/money.

above mentioned stages of cash cycle are primary structure of every operating cycle. Without these three stages the cash cycle will run properly according to business situations. for efficient management of cash cycle these three stages are to be maintain efficiently and co-operatively. if there is any change in system may arise the fluctuations in revenue.



### Phase 1

in phase 1 ,cash or money of company converted into the inventory. the term inventory contains the acquire of unprocessed material, translation of unprocessed material into work in progress, finished goods and then translate goods to the final process of manufacturing.

### Phase 2

in phase 2, inventory or stock of organization is translated into the receivables. the firm not sold its products on credit , so this phase is not applicable.

### Phase 3

in phase 3, receivables are collected by company .this stage completes the entire cash cycle process. Thus organization translates its cash to stock of inventory then into accounts receivables and then again into cash .

## **REASONS FOR CHANGE IN OPERATING CYCLE.**

### **➤ General Nature Of The Business Organization**

the nature of business organization largely affects the operating cycle of organization. conduct of business generally depends on the business requirements. business runs its activity according to its nature. Every nature of business must maintain the good amount of cash, inventory, and debtors.

### **➤ Size Of Business**

when the size of business organization is large ,then amount of working capital must be large and sufficient amount of cash is required, but when the size of business is small then amount of capital must be small. hence amount of capital depends upon the size of business.

### **➤ Production policy**

regular and constant stock of inventories required for efficient production policy .the production policy having direct relationship with the stock of inventories .higher inventories results higher production.

### **➤ Length of production cycle**

if the length of production cycle is longer then length of operating cycle will be longer. size of operating cycle depend upon the size and length of production cycle. lengthy operating cycle may be became production cycle lengthy

### **➤ Seasonal Variations**

structure of operating cycle is directly affected due to the variations in seasons. seasonal variations can affects the working capital and operating cycle structure.

### **➤ Credit Policy**

most of companies sold there products on the terms of credit that's why they are having large amount of book debtors. higher amount of debtors means higher amount of working capital. having more debtors is good sign for working capital.

## **ADVANTAGES OF EFFECTIVE OPERATING CYCLE**

### **➤ Solvency of business**

proper operating cycle of business helps in maintaining solvency and liquidity. it provides various sources of funds or cash from its operating cycle process. effective operating cycle makes business more profitable and solvent.

### **➤ Increases goodwill**

effective operating cycle increases the goodwill of organization and gives good amount of sources for payment of business obligations

### **➤ regular supply of raw materials**

operating cycle of business is directly effect on the production. for production large amount of raw material is required. effective operating system helps in regular inflow of unprocessed material.

### **➤ high morale**

when operating system of business is effective then there is increase in morale of employees. it gives the feeling of smooth flow of operations, confidence.

### **➤ regular payment of business obligations**

cash is realized from operating cycle of business. this cash is used for payment of various business obligations such as salaries, wages, overhead expenses.

### **➤ regular return on investments**

effective operating cycle helps in smooth flow of production. products produced by company are sold to its end users and company generates large amount of profits. Hence there is regular payment of dividend to investors

### **➤ ability to face crises**

if there is good operating cycle, then company can manufacture large amounts of product and becomes more powerful and will ready to faces any crises. effective operating cycle makes company financial sound.

## **DISADVANTAGES OF INEFFECTIVE OPERATING CYCLE**

### ➤ **Decrease In Business Growth Rate**

business organization will not become profitable due to ineffective operating system. unavailability of funds largely affects the productivity of business. And results in decrease in profit of organization.

### ➤ **Reduces Goodwill**

lack of effective management of operating cycle will highly affects the goodwill of organization. due to this the profitability of business may reduces.

### ➤ **Low Rate Of Return On Investments**

the objectives of organization will not be achieved due to lack of sound operating system. capital..the average rate of return will not be earned by company.

### ➤ **Fixed Assets Can Not Be Used Properly**

fixed assets of organization will not be used properly for business activities due to limited funds and irregular flow of activities of operating cycle.

### ➤ **Low Level Of Production**

capacity of production will not be used fully. and its reduces the level of production. And its leads failure of organization. customers go for another products.

### ➤ **Decreases Credit Worthiness Of Company**

whenever the goodwill of company decreases the credit worthiness of company also decreases. hence company is required to maintain adequate source of capital as well as effective operating system.

## **IMPACT OF OPERATING CYCLE IN OVERALL PRODUCTION**

### ➤ **Production**

Production department deals with the raw material ,work in progress and stock of finished goods .operating cycles is directly related to production department. Operating cycle decides the flow of manufacturing activities, technology to be used, production capacity, improvement in delivery techniques etc.

➤ **Management of raw material**

Operating cycle plays very vital role in management of materials .it deals with the procurement of direct as well as indirect unprocessed material, accessories, plants and machineries, fixtures ,store parts that required for processing raw material to finished goods.

➤ **Finance**

Finance is one of the important factor that may impact on operating cycle. Operating cycle deals with financial activities such as keeping working capital amount at exact level, arrangement of funds as such a way that they meet all requirements of capital.

➤ **Marketing**

The main aim of marketing department that maximum selling of product. And quickly collection of cash from customers. Operating cycle deals with capacity of production and also position of holding of stock.

➤ **Other managerial functions**

Other managerial functions mean those factors which make operating cycle more efficient than earlier. they help in make operating cycle more smooth and effective in order achieve profitability and future sustainability.

## **REVIEW OF LITERATURE**

**Ananthakrishna**,( *G. P. Ananthakrishnan, "Working Capital Finance Provided by Banks to Industrial Units, "The Banker, Vol. XXXIII, No. 4, June 1986, pp. 31-33.*)

**Pandey**(*Pandey, I. M., Financial Management, New Delhi, Vikas Publishing House Pvt. Ltd., 1985*), **Agrarwal and Jain** ( *N. P. Agarwal and R. K. Jain, "Fundamentals of Working Capital Management", Financial Express, Vol. VII, No. 168, October 29, 1986, Page 9.*)

**Desai and Darji**(*B. H. Desai and R. B. Darji, Working Capital Financing by Bank, (A Case Study of NTC (Gujarat) Ltd.) The Management Accountant, Vol. XXI, No. 5, May 1986, pp. 273-275.*), **Nataraja**(*Sundar Natrajan, "Working Capital Management & Finance", Economic and Political Weekly, Vol. XX, No. 8, February 1980, pp. M 25- M31.*),

**Pradhan**(*R. S. Pradhan, "Financing Pattern of Working Capital in Indian Industries". The Management Accountant, Vol. XXI, No. 4, April 1986, pp. 205-206*)

## **OBJECTIVES OF THE STUDY**

- To study the concept of working capital management and operating cycle
- To know the factors affecting operating cycle.
- To learn the liquidity position with the help of operating cycle.
- To forecast working capital requirements with the help of operating cycle.
- To know the whole operational effectiveness and performance of the company

## **RESEARCH AND METHODOLOGY**

**Research methodology adopted for analytical study is as follows:-**

- The observation technique will be adopted and the audited reports and statements also observed in this study.
- The interview technique will be adopted for the collection of information from branch manager.
- The audited financial statements for previous 3 years 2016-17,2017-18,2018-19. used for the calculating ratios in this project.
- Statistical techniques such as percentage, charts, graphs, diagrams, ratios will be intended for the sorting and arrangement of data.
- reference book is used in this study.

## **Scope of study**

The scope of working capital and operating system is very huge. the main motive of this particular study is to examination of working capital structure and find out the financial health of company.

- Working capital is most widely used and one of the powerful technique of Financial analysis. consist of number of options to focus on the key areas of company which affects the profitability of company.
- management of operating cycle plays extremely significant role in decision making it helps in measures taken by company to achieve the required working capital
- All these points are come under the management of operating cycle. so the scope of working capital examination are very broad and huge

## **Limitation to study**

1. Secondary data is used for calculating various ratios of particular study.



2. This study is totally depends on past facts and information of yearly statements of company. Financial data is not adjusted for price change or inflation and deflation.
3. Time constrains
4. Data collection
5. Some documents are confidential and can be available only for staff. So all information is not collected.

## DATA COLLECTION

The data collection is the systematic process of gathering and measuring information on variables of interest .it is an established systematic fashion that enables one to answer stated research questions test hypothesis and evaluate outcomes.

## DATA SOURCES

### Secondary data

#### 1. Annual report of company

Majority of information collected from the data in the balance sheet of company. It includes annual reports of the year 2016-18.i have made comparison and made difference between the three years amount. due to this I came to know the actual financial health of company.

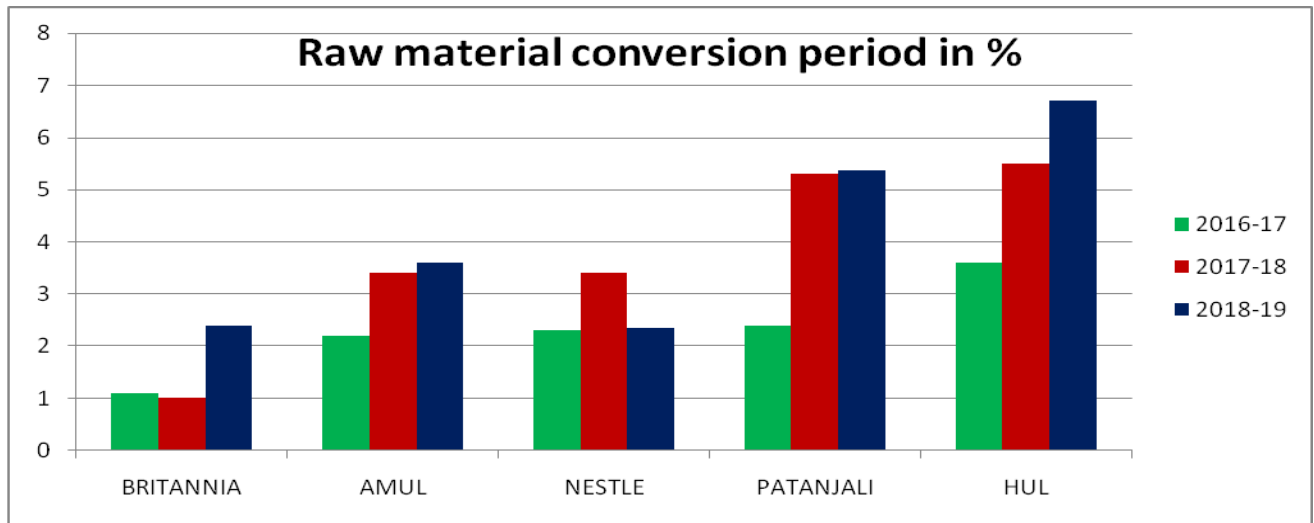
#### 2. Reference Book

Theory related to various concepts taken up from financial reference book.

## DATA ANALYSIS AND INTERPRETATION

$$1. \text{ Raw Material Conversion Period} = \frac{\text{Average Raw Material}}{\text{Average raw material consumed during year.}}$$

YEAR	BRITANNIA	AMUL	NESTLE	PATANJALI	HUL
2016-17	1.10	2.21	2.30	2.40	3.60
2017-18	1.02	3.41	3.40	5.30	5.50
2018-19	2.40	3.60	2.35	5.36	6.70

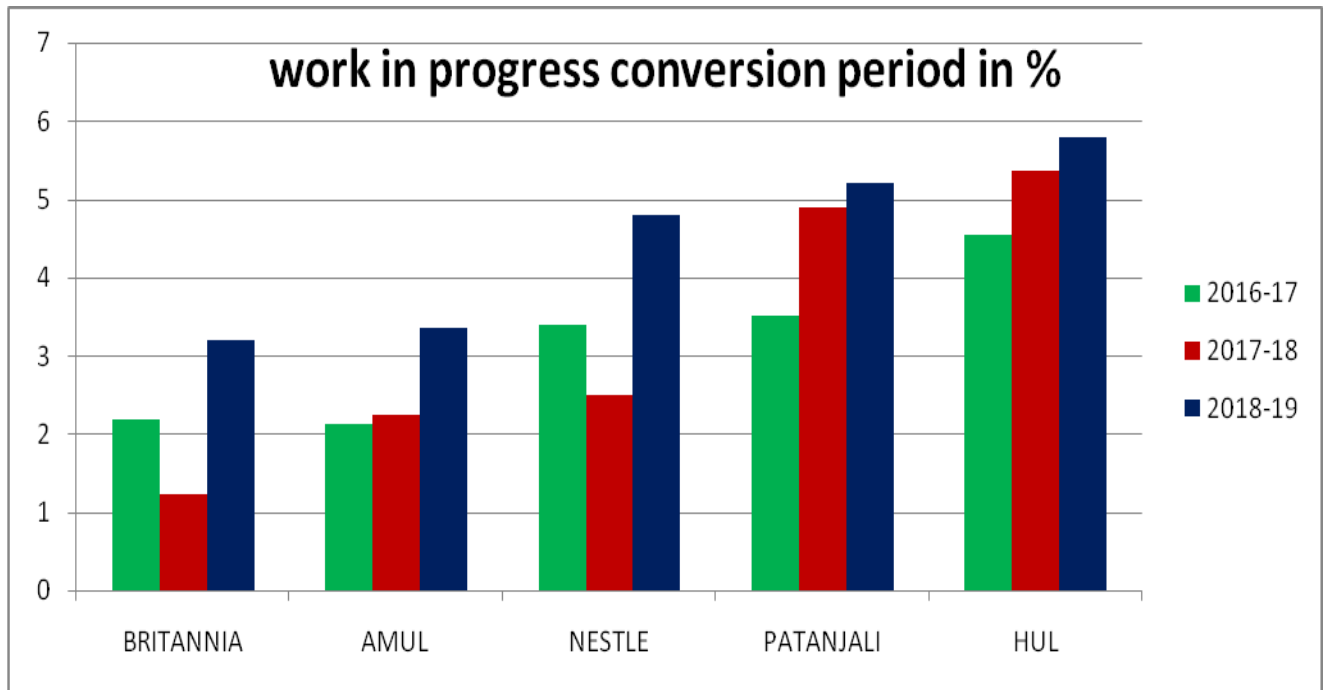


### Interpretation

The raw material conversion period of BRITANNIA ,Amul, Patanjali, And HUL was highest in 2017-2018. And raw material conversion period of nestle was highest in 2016-17. The increasing trend of RMCP is very good sign for company.

$$2. \text{ Work In Progress Conversion Period ( WIPCP) } = \frac{\text{Average Stock In Progress}}{\text{Average Cost Of Production}}$$

YEAR	BRITANNIA	AMUL	NESTLE	PATANJALI	HUL
2016-17	2.18	2.13	3.40	3.50	4.55
2017-18	1.23	2.25	2.50	4.89	5.36
2018-19	3.20	3.36	4.80	5.20	5.80

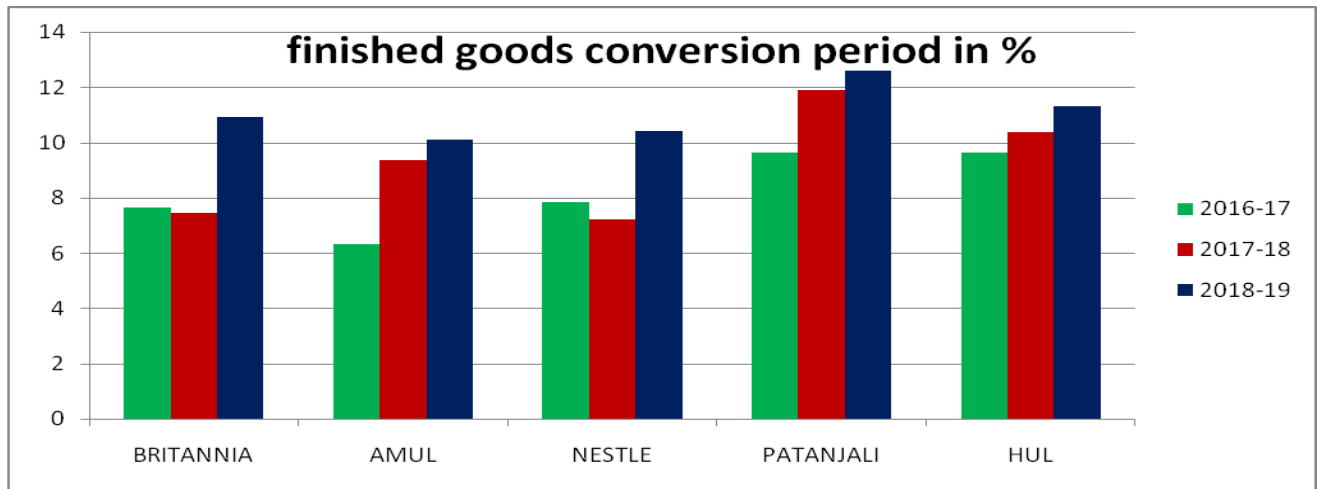


### Interpretation

Work in progress conversion period of all companies was highest in 2017-18. It shows that all companies have a positive ratio of WIPCP. WIPCP shows how much time lag is required for a company to produce finished products. All companies showing an increasing trend in WIPCP indicate that these companies are going to produce a large number of products and become competitors of each other.

### 3. Finished Goods Conversion Period ( FGCP ) = $\frac{\text{Average Finished Goods Inventory}}{\text{Average Cost Of Goods Sold}}$

<b>2016-17</b>	7.65	6.30	7.85	9.65	9.63
<b>2017-18</b>	7.44	9.36	7.20	11.90	10.36
<b>2018-19</b>	10.90	10.11	10.40	12.60	11.30

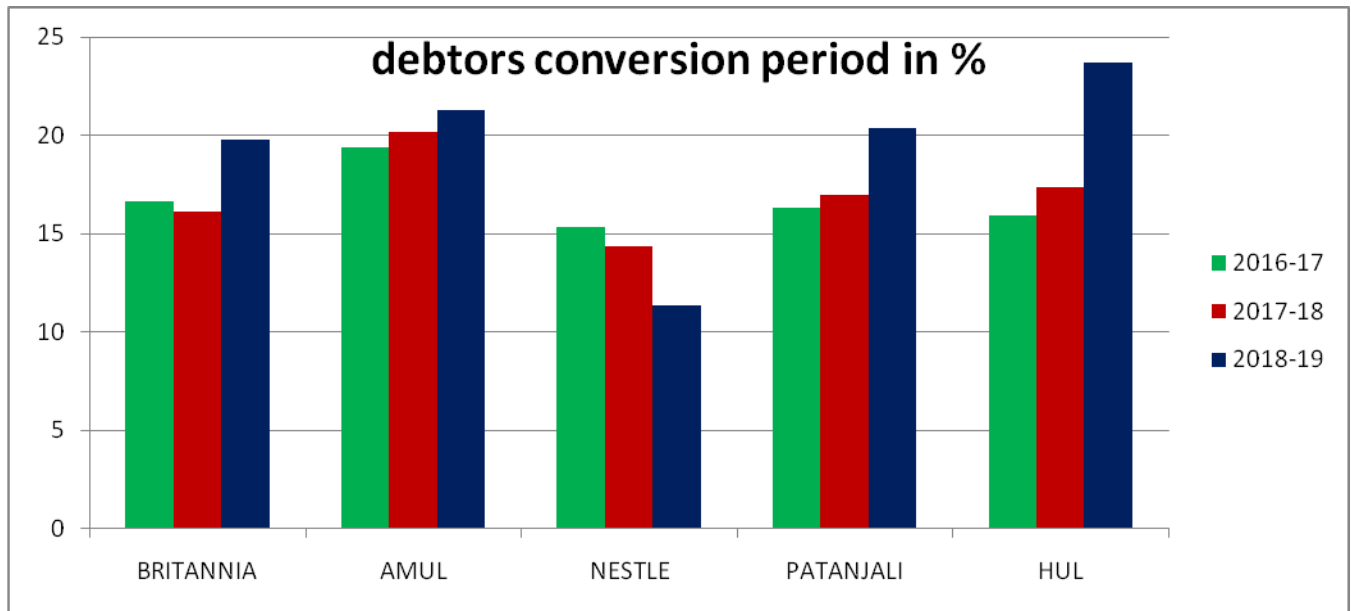


### Interpretation

patanjali has highest finished goods conversion ratio in the year 2017-18 that is 12.60. and amul has the lowest FGCP in the year 2017-18. the finished goods conversion ratio is the ratio which shows actual time taken to sold finished goods. in 2016-17 the patanjali having highest FGCP that is 11.90 and nestle having the lowest FGCP that is 7.20 .and in the year 2015-16 the patanjali having highest FGCP that is 9.65 and amul having lowest FGCP that is 6.30 .graph shows that patanjali having strongest finished goods conversion period.

$$4. \text{ Debtors Conversion Period ( DCP )} = \frac{\text{Days In Company Operating Year}}{\text{Debtors Turnover}}$$

YEAR	BRITANNIA	AMUL	NESTLE	PATANJALI	HUL
2016-17	16.62	19.36	15.36	16.32	15.90
2017-18	16.10	20.18	14.36	16.97	17.34
2018-19	19.78	21.31	11.39	20.36	23.68

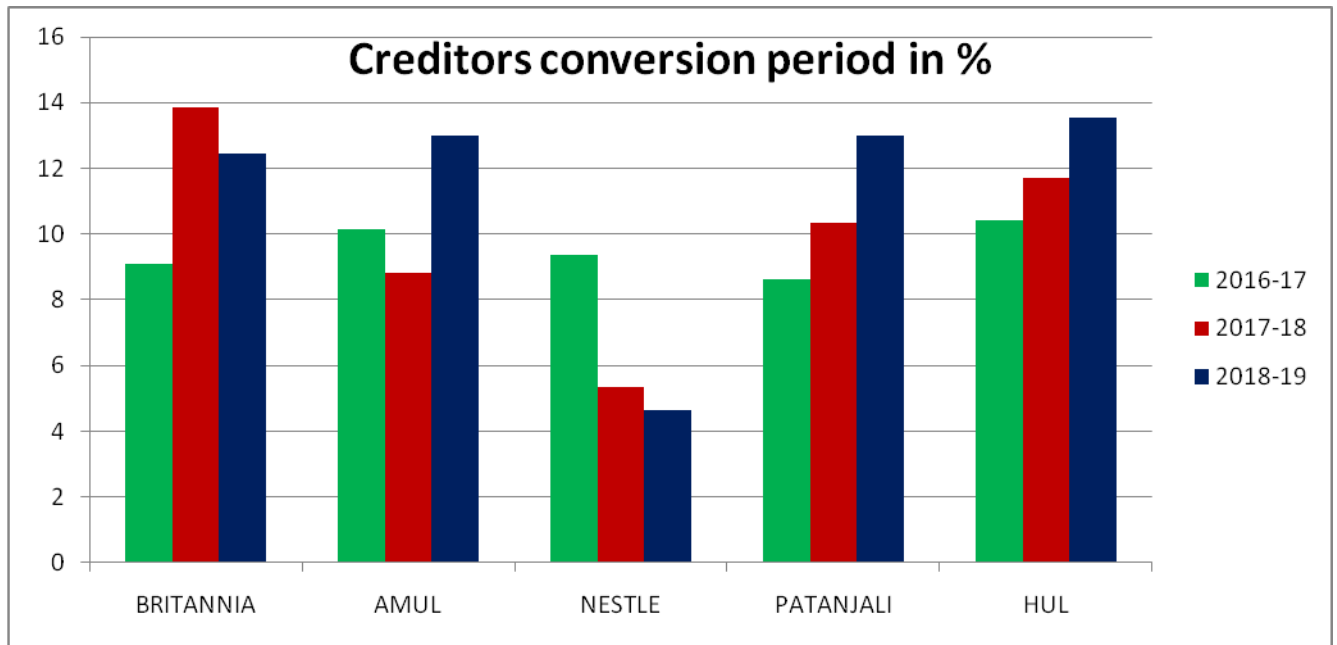


### Interpretation

HUL company having highest debtors conversion period that is 23.68 in year 2017-18. and nestle company having lowest DCP that is 11.39 in year 2017-18. debtors conversion period shows over age collection period. it shows how much time lag is required to convert debtors of company into cash.

$$5. \text{ Creditors Conversion Period (CCP)} = \frac{\text{Days In Company Operating Year}}{\text{Creditors Turnover}}$$

YEAR	BRITANNIA	AMUL	NESTLE	PATANJALI	HUL
2016-17	9.11	10.14	9.36	8.63	10.41
2017-18	13.84	8.81	5.36	10.36	11.69
2018-19	12.45	12.98	4.63	13.01	13.56

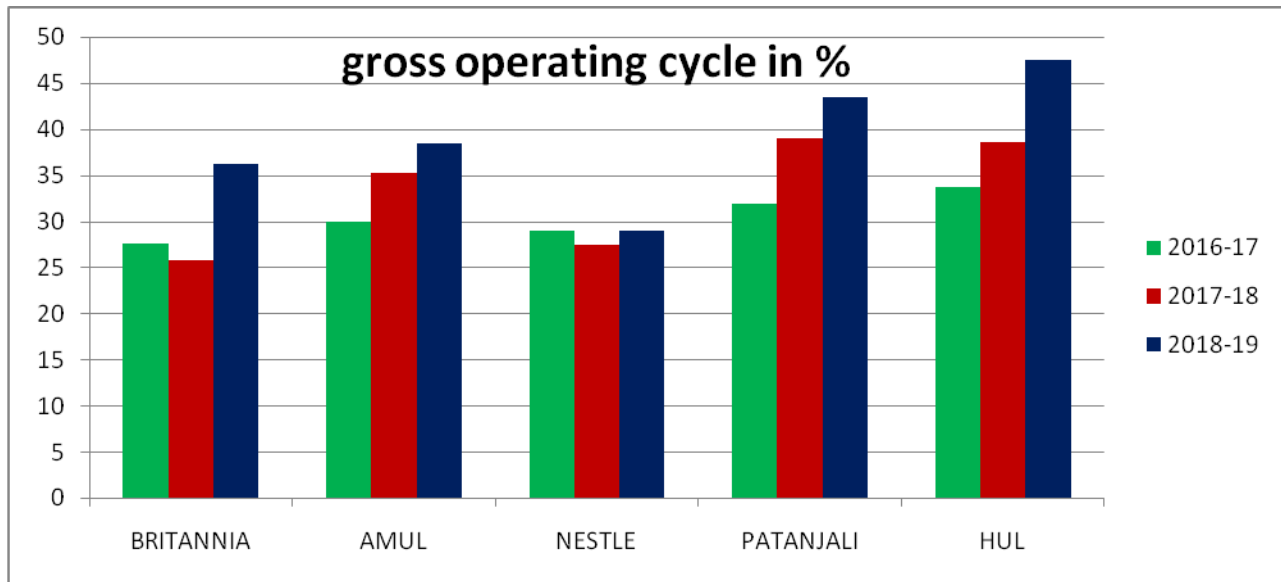


### Interpretation

Credit conversion period represents the how much time business takes to sales its debtors in exchange of suppliers. Hul company having highest credit conversion period. And the company nestle having lowest credit conversion period that is 4.63

$$6. \text{ Gross Operating Cycle} = \text{RMCP} + \text{WIPCP} + \text{FGCP} + \text{DCP}$$

YEAR	BRITANNIA	AMUL	NESTLE	PATANJALI	HUL
2016-17	27.55	30.00	28.91	31.87	33.68
2017-18	25.79	35.20	27.46	39.06	38.56
2018-19	36.27	38.38	28.94	43.52	47.48

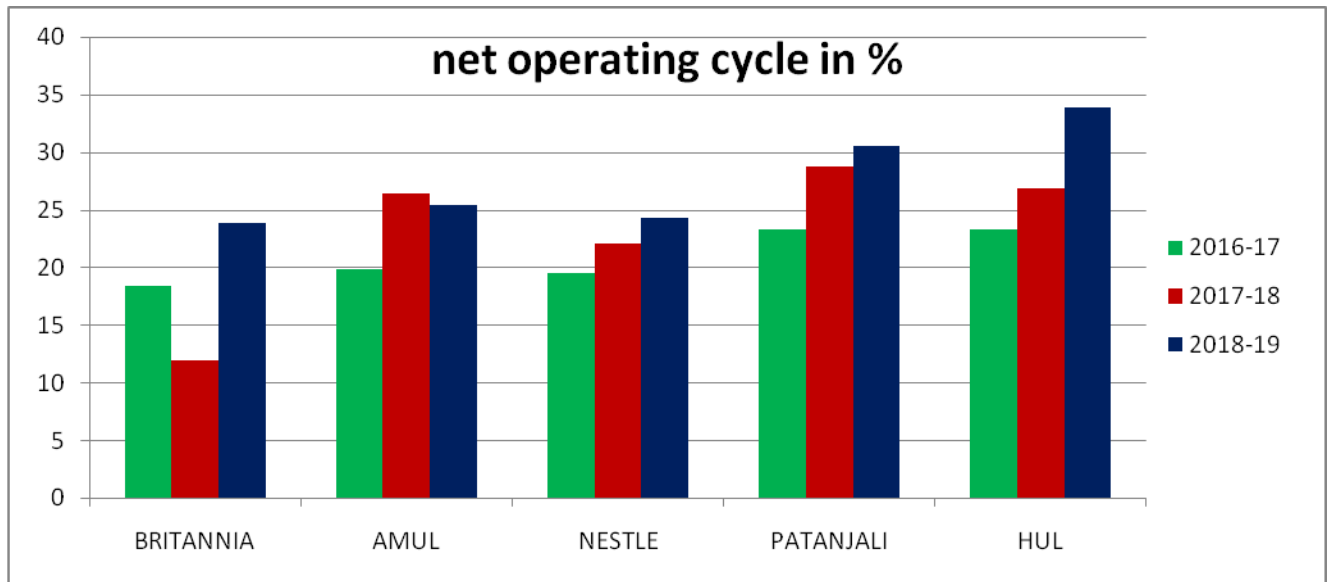


### Interpretation

gross operating ratio of HUL company was highest in 2017-18 that is 47.48. and it was lowest of nestle company in 2017-18 that is 28.94. gross operating ratio shows time period after raw material purchase till its transformation into cash. its is one of the important phase of company.

### 7. Net Operating Cycle = Gross Operating Cycle – Creditors Collection Period

YEAR	BRITANNIA	AMUL	NESTLE	PATANJALI	HUL
2016-17	18.44	19.86	19.55	23.24	23.27
2017-18	11.95	26.39	22.10	28.70	26.87
2018-19	23.82	25.40	24.31	30.51	33.92



### Interpretation

HUL company having highest net operating cycle ratio in year 2017-18 that is 33.92 .the increasing trend shows the positive operating cycle. it shows time require to company for taking inventory. and receives invoices from customers.

### FINDINGS

- Operating cycle of all companies except nestle having increasing trend. The increasing trend in RMCP ,WIPCP ,FGCP ,DCP AND CCP shows that company having effective operating system . It is good sign for company.
- Stock of inventories and accounts receivables in operating cycle helps in increasing the profitability of organization.
- Increasing amount of stock per year shows that company is having effective operating system. And it is positive sign for company.
- company not using its funds for operating system due to the expansion and diversification plans. So working capital and operating system requirements are not fulfilled.
- It is found that net operating cycle having continuously increases therefore there is upward trend of operating cycle due increase in raw material consumption period and finished good consumption period
- The financial ability of all companies except nestle is increasing every year from the above analysis.
- From this study we found that the NOC of company and creditors period of payment is average that is 10 days. So it does not affect GOC.



## SUGGESTION

- Operating cycle of all companies except nestle having increasing trend. The increasing trend in RMCP, WIPCP, FGCP ,DCP AND CCP shows that company having effective operating system . It is good sign for company.
- All companies having the adequate amount of working capital. And good liquidity and profitability position. But after utilizing all short term funds they will be more profitable.
- Companies should use proper techniques foe inventory control such as fixing minimum, maximum, ordering levels for inventory.
- Company should use inventory management systems like ABC analysis, EOQ system .it will result in proper utilization of operating cycle.
- Due to though competition prices of products are very high. The all companies should adopt cost reduction theory by using optimum resources in operating cycle.

## CONCLUSION

- In this project I have studied operating cycle of five manufacturing companies. I have forecast working capital requirements with the help of operating system.
  - I have studied the factors that influence the structure of operating cycle.
  - I learn how to determine whole operational efficiency with the help of operating cycle.
  - There is increase in stock of inventory that is positive sign for company. it shows that there is regular supply of inventory.
- From this analysis i know that operating cycle plays very essential role in profitability and long term sustainability of company.

## References

- Filbeck, Greg and Krueger Thomas M., "An Analysis of Working Capital Management Results Across Industries", Mid-American Journal of Business, vo1.20, No.2, pp 11-28 (2006)
- Pandey, Shishir, "Financial Management In Aluminium Industries In India (With Special Reference To Hindalco)", Ph.D. Thesis, BHU, (2009)
- S.K. Chakraborty, "Use of Operating Cycle Concept for Better Management of Working Capital," The Economic and Political Weekly, August, 1973, Vol.8, pp. M 69-M76

### Reports, Journals, Bulletins and Periodicals:

- *Annual Reports* of the various selected Units
- *Tandon Committee Reports*
- *The Indian Accounting Journal*