



## ***Internship Report On***

# **“Working Capital Management and Its Impact on Profitability- A Study on British American Tobacco Bangladesh Ltd.”**

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## Letter of Transmittal

To  
Dr. Khan Md. Raziuddin Taufique  
Assistant Professor  
BRAC Business School  
BRAC University

**Subject:** Submission of internship report on “Working Capital Management and Its Impact on Profitability- A Study on British American Tobacco Bangladesh Ltd.”

Dear Sir,

This is my great pleasure to submit the Internship report of my three months long Internship program in the British American Tobacco Bangladesh in the department of Corporate and Regulatory Affairs (CORA). The title of the report is “Working Capital Management and Its Impact on Profitability- A Study on British American Tobacco Bangladesh Ltd.”

This report has been prepared to fulfill the requirement of my internship program at my assigned organization in British American Tobacco Bangladesh. I have put my best effort to make this report a successful one. It has been joyful & enlightening experience for me to work in the organization & prepare this report. However this has been obviously a great source of learning for me to conduct similar types of studies in the future.

I would like to express my sincere gratitude to you for your kind guidance & suggestions in preparing the report. It would be my immense pleasure if you find this report useful & informative to have an apparent perspective on the issue. I shall be happy to provide any further explanation regarding this report if required & please do not hesitate to call me if you have any query on this report or any other relevant matters.

Sincerely,

Saima Peari  
ID: 12264080  
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## **Acknowledgement**

The successful accomplishment of this project work is the outcome of the contribution of a number of people, especially those who have given the time and effort to share their thoughts and suggestions to improve this report. At the very beginning I would like to express my deepest gratitude to Almighty Allah for giving me the strength and the composure to finish the task within the scheduled time.

I would like to thank my line manager, Debasish Barua, Corporate Tax Manager, Finance, BATB, for rendering his valuable time and providing me with various information which was very much needed for the successful completion of this report.

I am also thankful to my fellow colleagues of British American Tobacco Bangladesh who gave me their valuable time and enough information to successfully make this report. I also want to thank my University friends for their encouragement and support while making this report.

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## Executive Summary

This study tries to explore the impact of working capital management on profitability of British American Tobacco Bangladesh Ltd. one of the leading multinational corporations in Bangladesh. Working Capital can be defined as the amount when current asset is surpassing current liabilities. The focus of this paper is to analyze how the company manages its working capital on the basis of cash, inventory period, receivable period and payable period management and how it influence the profitability of an organization.

This project paper starts with the objective of the study and the methodology. The project paper contains the analysis of ten years data of BATB commencing from the year 2006 to 2015. Most of the researchers found that degree of efficiency of administration of working capital largely determines the success or failures of overall operations of an organization. The objective of this report is to analyze the previous studies and relate them with this paper.

Afterwards description of the company including its history, products, mission, vision, organization structure etc. is discussed in chapter three. Corporate social responsibility is a remarkable part of BATB. In the fiscal year 2013-14 BATB contributed more than 8436 crore taka as taxes to the national Exchequer. WCM policy for BATB is discussed elaborately in this chapter as well. They follow aggressive WCM policy because of their higher utilization of short term financing. Inventory management performance is evaluated using inventory conversion period. In the year 2014 it was approximately 171 days which is quite high in compare to other years. BATB's time gap between collecting money from the creditors is very satisfactory with an average period of 4 days. The organization tries to delay the accounts payable as much as possible. The time taken by BATB to make payments to creditors is around 107 days.

Analysis of the collected data is presented in chapter five. It contains descriptive, correlation and multiple regression analysis of the variables with proper interpretation and it was found that there is relationship between profitability and working capital components. Correlation analysis shows that receivable period is negatively related with profitability and other variables are positively related. Finally findings and conclusion chapter includes a summary of the results found in the analysis portion.

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## Abbreviations

BATB	British American Tobacco Bangladesh Ltd
WCM	Working Capital Management
WC	Working Capital
RD	Receivable Days
PD	Payable Days
ID	Inventory Days
CCC	Cash Conversion Cycle



# **INTRODUCTORY PART**

# Chapter 1

## **1.1. Introduction:**

Working capital management is an area which emphasize on the productive utilization available funds created out of good cash flows, financial solvency and growth strategies at the company. It represents the liquidity position of business indicating the management of short term assets and liabilities. Basically net working capital of a company is determined from the deviation of current assets and current liabilities. When current assets are higher than current liabilities, that means the company is capable enough to continue its operations and it also defines that the company have sufficient funds to satisfy its short-term debt and upcoming operational expenses. Working capital management of the British American Tobacco Bangladesh is highly satisfactory due to efficient management of inventory, debtors, cash balances and working funds where the major elements of working capital were inventory, debtors, cash balances and short term investments.

## **1.2. Origin:**

Internship is a part of MBA program in BRAC University. The report is originated from the curriculum requirement of MBA program. I have done my internship at “British American Tobacco Bangladesh Company Ltd” and have done my report on “Working Capital Management and its Impact on Profitability in British American Tobacco Bangladesh Ltd.” I chose the topic as per consultation with my academic supervisor Dr. Khan Md. Raziuddin Taufique.

## **1.3. Objective:**

The objective of preparing this report can be explained under two categories. They are-

### **1.3.1. Broad Objective:**

The objective of the study is to gain an insight into the concept of working capital management, how working capital is managed at a multinational corporation and how it influences the overall performance of the company.



### **1.3.2. Specific Objective:**

- a. Evaluation of working capital management
- b. Evaluation of liquidity position & inventory
- c. Evaluation of receivables and accounts payable

### **1.4. Methodology:**

Methodology is the technique through which the research will be done. To do this research secondary data have been used mostly. BATBC is one of the renowned names in the manufacturing industry of Bangladesh. This research paper contains the analysis of ten years data of BATBC from the period of 2006 to 2015.

#### **1.4.1. Data Sources:**

The nature of this report is quantitative. For this report data is collected from primary and secondary sources.

Primary data is collected directly from the organization from personal interaction with the finance manager and other employees of finance department of the company.

Secondary data is mainly collected from the annual reports of the company as well as some previous work on working capital management. Some websites are also used as reference while doing this research. They are-

- Official Website of British American Tobacco Bangladesh
- Website of LankaBangla Finance Ltd.
- Website of Dhaka Stock Exchange
- Modern Working Capital Management (Text and Cases) by Fredrick C. Scherr

#### **1.4.2. Data Analysis:**

As it is a quantitative report, data have been tabulated, analyzed and interpreted with the help of different financial ratios and statistical tools and most of the calculation was done through Microsoft Excel and SPSS.

## **1.5. Limitation of the Report:**

The report faced some problems during its preparation, which has limited the purpose of the report. The limitations are:

- To maintain the confidentiality of the information data availability is a big issue.
- The internship has been made for three months long duration but it is very much difficult to set true practical experience with current world circumstances in this short span of time.

In spite of all these limitation I have tried to put the best effort as per as possible.



# **ORGANIZATION PART**

# Chapter 2: Company Overview

## **2.1. Company Overview:**

British American Tobacco (BAT) is a major global manufacturer of tobacco products. The group operates in 200 countries around the world, occupies a leading position in the markets of 60 countries and produces over 200 brands of cigarettes.

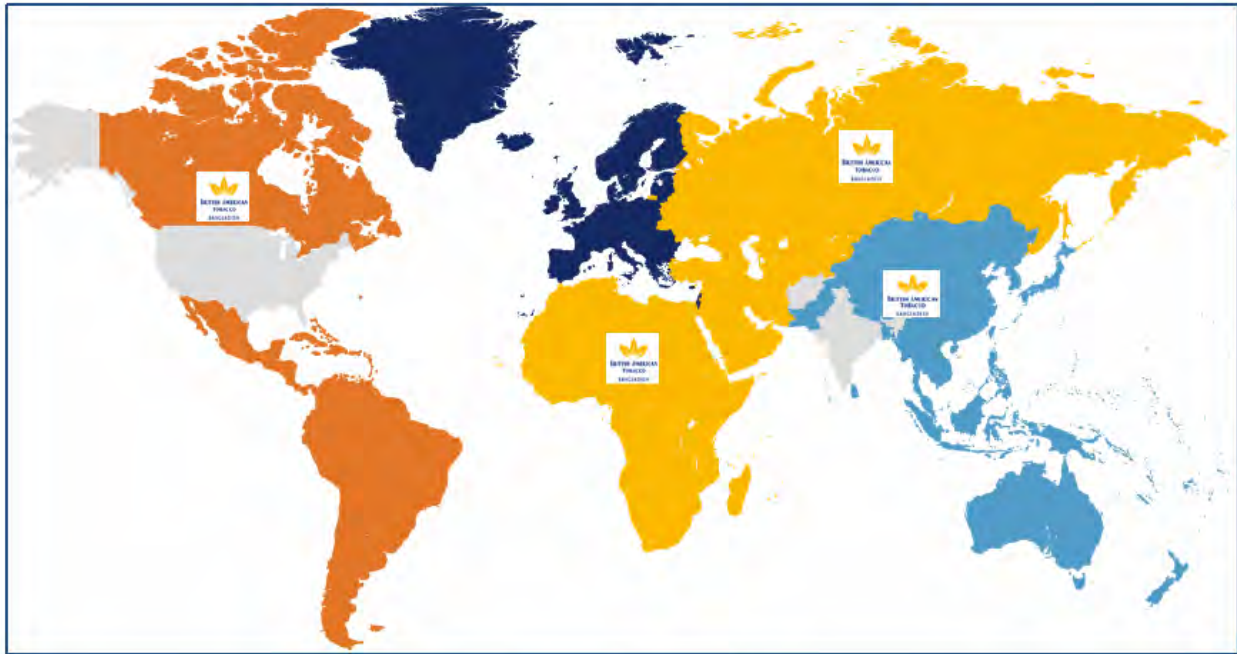
They play a significant role in local communities around the world. In many countries they are the top employer and the company of choice for people in all areas of our business. They have 44 cigarette factories in 39 countries. They are also proud of their Research & Development facilities, where our people are striving to reduce the harm associated with tobacco products.

In 2015, they sold 663 billion cigarettes, made in 44 factories in 41 countries. They employ more than 50,000 people worldwide, with many more indirectly employed through their supply chain. British American Tobacco alone contributed approximately £30 billion to governments worldwide in excise and other taxes in 2015.

With their geographic diversity, strong brands, talented people and proven strategy, the Group is well placed to achieve further success. In particular, they are confident that their investments in both innovative cigarette products and next-generation nicotine and tobacco products will help them drive.

They hold robust market positions in each of the following four regions-

- Americas;
- Asia-Pacific;
- Eastern Europe;
- Middle East and Africa; and
- Western Europe – cover six continents. We are the market leader in more than 60 markets.



*Figure 1: Regional Operation of BAT*

### **2.1.1. History:**

British American Tobacco is a pioneer's cigarette manufacturing company throughout the world. BAT Bangladesh is a part of British American Tobacco, one of the world's most international businesses, with brands sold in more than 200 markets around the world.

1902: When the UK's Imperial Tobacco Company and the American Tobacco Company of the United States form a joint venture, the British American Tobacco Company. James „Buck“ Duke becomes the company's first chairman. His strategy is to devise a superior product, hire the best people to make it, price it as low as possible, and mechanize production.

1904-19011: A period of rapid expansion sees them develop markets in the West Indies, India, Ceylon, Egypt, Holland, Belgium, Sweden, Norway, Finland, Indonesia, East Africa and Malaya.

1910. Beginning the journey as Imperial Tobacco 103 years ago, the Company set up its first sales depot at Armanitola in Dhaka.

1949: After the partition of India in 1947, Pakistan Tobacco Company was established. he first factory in Bangladesh (the then East Pakistan) was setup in 1949 at Fauzdarhat in Chittagong.

1965: The second factory of Pakistan Tobacco Company went into production in Mohakhali, Dhaka.

1972: Thereafter it became Bangladesh Tobacco Company Limited in 1972 immediately after Bangladesh's independence.

1998: the Company changed its name and identity to British American Tobacco Bangladesh (BAT Bangladesh) aligning the corporate identity with other operating companies in the British American Tobacco Group.

### 2.1.2. Product and Service Offering:

BATB's business is not about encouraging people to start smoking or to smoke more, but about meeting the preferences of adults, who have chosen to consume tobacco, and differentiating their brands from the competitors. BATB has been present in Bangladesh for a very long time and it is still doing its business dominantly with four of its key drive brands. They manufacture and market high quality and well established international cigarette brands. Current brands of the company are Benson & Hedges, John Player Gold Leaf, Pall Mall, Capstan, Star, Pilot, Bristol, Derby and Hollywood which are positioned in four segments in the Bangladesh cigarette market. The market segments of the brands are shown below:

Segments	Brands
Premium	Benson & Hedges Lights, Benson & Hedges Full Flavors, State Express 555
Aspirational Premium	John Player Gold Leaf, Pall Mall Full Flavors, Castle, Pall Mall Lights, Pall Mall Menthol, Capstan Filter
Value for Money	Star Filter, Scissors Filter
Low	Pilot, Hollywood, Derby, Derby Special

Table 1: Major Brands of BATB in Bangladesh Cigarette Market

**Benson & Hedges:** Since its launch in 1997, Benson & Hedges has dominated the Premium segment. And in 2012, the house of Benson & Hedges launched a new and unique variant - Benson & Hedges Switch. Keeping innovation at its core, Benson & Hedges Switch became the first ever capsule cigarette to be launched in Bangladesh.

**John Player Gold Leaf, Pall Mall and Capstan:** John Player Gold Leaf, Pall Mall and Capstan are positioned in the Aspirational Premium segment. Launched in 1980, John Player Gold Leaf is one of the highest selling brands of our company, enjoying large market share in the Aspirational Premium segment. Pall Mall was the Group's first Global Drive Brand to be launched in Bangladesh in 2006.

**Star:** Star and Star Next are positioned in the VFM segment. Star was launched in 1964 and Star Next was launched in 2012.

**Pilot, Hollywood and Derby:** They have three brands in Low Segment – Derby, Pilot & Hollywood. Derby was launched in 2013 and is the biggest brand among the three, offering taste differentiation to the consumers through its two variants. Pilot was launched in 2009 and at present it is the fastest growing brand in the industry. The third brand is Hollywood which was launched in 2011.

## 2.2. Structure of the organization:

The structure is much decentralized with the parent company retaining authority for overall strategic direction of the Firm and financial control. The following figure shows the flow from the parent company to BATB:

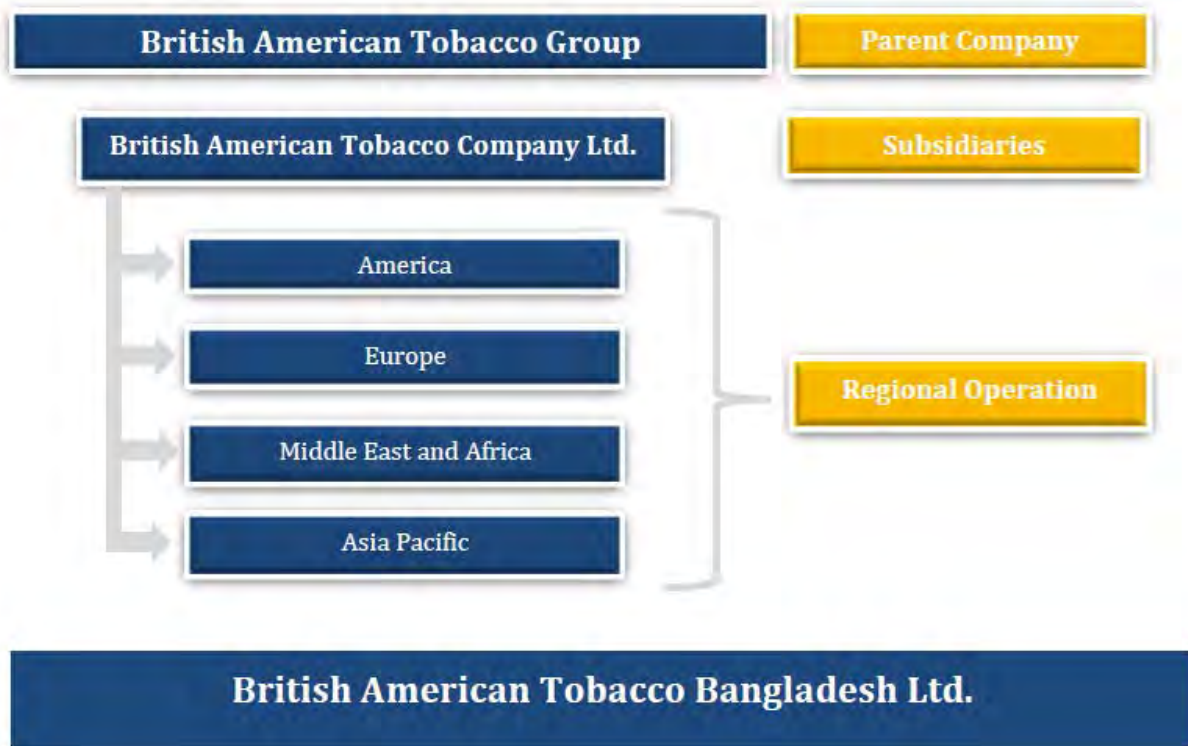


Figure 2: Relation of BATB with BAT Group

### 2.2.1. Shareholders:

BATB were among the first companies to be listed on the Dhaka and Chittagong Stock Exchanges and currently ranked amongst the top 10 companies in terms of market capitalization. British American Tobacco Group holds 72.91% of our shares; 12.86% is owned by Investment Corporation of Bangladesh; Shadharan Bima Corporation, Bangladesh Development Bank Limited, Government of People's Republic of Bangladesh and a further 14.23% is owned by other shareholders.

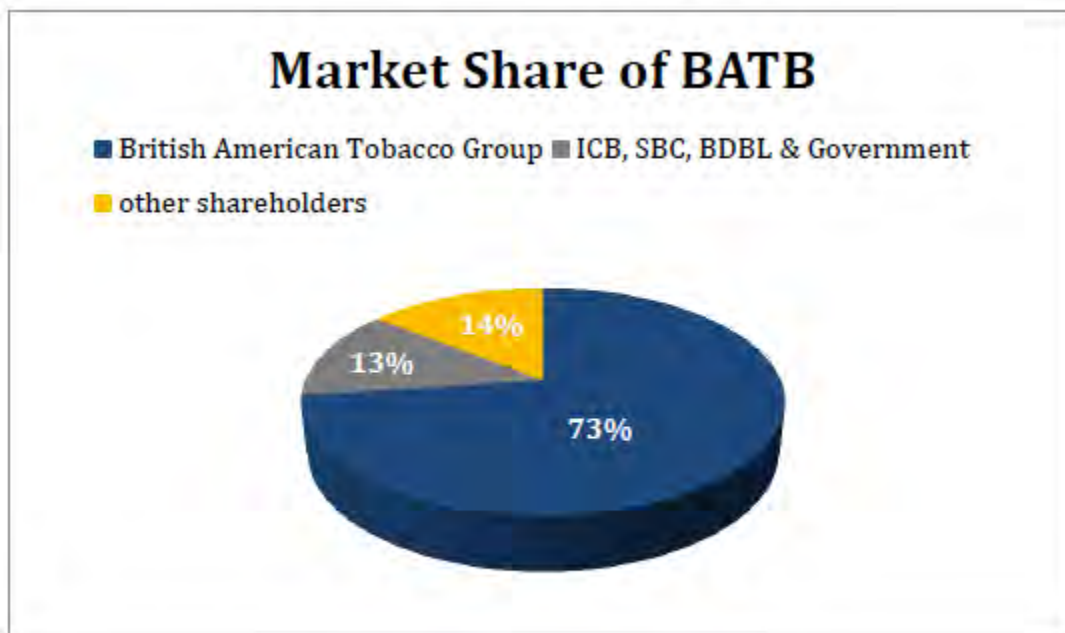


Figure 3: Shareholders of BATB

### 2.2.2. Contributions of BATB

They continue to contribute approximately two-thirds of the revenue derived from the cigarette industry, wherein 2013-14 fiscal year BAT Bangladesh contributed over BDT 8,436 crore as taxes to the National Exchequer. The company will continue to support Government proposals that establish a sustainable level of tax contribution to the national exchequer while ensuring a sustainable growth for the industry.



### 2.2.3. Major Functional Division and Departments:

BATB has been operating its business under the following major functional areas:

- Leaf
- Supply Chain/Operations
- Finance
- Human Resource
- Marketing
- Legal and Secretarial
- Information Technology
- Corporate and Regulatory Affairs

### 2.2.4. Core Business Activities:

BATB's core business is to manufacture and market cigarettes. In addition to this, the company also exports tobacco and vegetables. The main activities taking place in the business are:

- **Tobacco Leaf Growing:** There are registered farmers who grow the tobacco in the regions of Kushtia, Chittagong and Rangpur.
- **Leaf Processing:** The leaf is processed in two factories; the green leaf threshing factory where the stem is separated from the leaf and the Dhaka Factory (Primary Department) where the leaf cut to make it ready for production.
- **Cigarette Manufacturing:** The cut tobacco is sent to secondary manufacturing department or the Dhaka Factory where it is combined with wrapping materials to make the final product. The factory runs in three shifts for 24 hours to give a daily production of around 60 million sticks.
- **Distribution:** The product is sent out to various distribution houses across the country. The distributors work with the BATB trade marketing team I ensuring distribution to all retail outlets in the country. With ever increasing number of outlets (currently, this is one of the major challenges the company faces.
- **Brand Activities:** With the ban on promotion activities, the company has to look towards innovative ways of communicating their brands to the cigarette consumers.

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## 2.2.5. Mission & Vision

### **Vision**

Their vision is to be world's best at satisfying consumer moments in tobacco and beyond.

### **Mission**

Mission of BATB is delivering their commitments to society, while championing informed consumer choice. As society changes, and people's priorities and needs shift, they need to be ready to meet new challenges and take advantage of new opportunities. They are a major international business and with this status come responsibilities, from being open about the risks of our products to supporting rural communities in the developing world.

## 2.2.6. Corporate Social Responsibilities:

The Company believes that the business has a key role to play in helping society to achieve the necessary sustainable balance of economic growth, environmental protection and social progress in ways that will build value for all our stakeholders. The Company is conducting its activities in line with the amended Smoking and Tobacco Products Usage (Control) Act, 2013.

### **Afforestation Program:**


The flagship activity of this Company, the Afforestation Programme, began in 1980. So far, BAT Bangladesh has distributed approximately 8.35 crore saplings in and around the operational areas, including 4 million saplings in 2014. This relentless effort makes the programme the largest private sector driven afforestation programme in the country.

### **Safe Drinking Water:**

Millions of people in Bangladesh face scarcity of safe drinking water due to arsenic contamination. BAT Bangladesh has taken the initiative through a community project to provide 300,000 liters of safe drinking water free from arsenic and other impurities to arsenic-prone rural communities every day. This initiative is aligned with the Government's aim to achieve the Millennium Development Goals of securing sustainable access to safe drinking water.

### **Solar Energy:**

To complement the Government of Bangladesh's efforts in the renewable energy sector, BAT Bangladesh has undertaken a project to install solar home systems in village homes that are in remote, off-grid areas of the Chittagong Hill Tract districts of the country. The solar home system initiative of BAT Bangladesh has already installed 300 units of solar home systems in 2014.



### **Contribution in Agriculture:**

BAT Bangladesh has had a fruitful partnership with farmers across the country through its various programmes dedicated to improving agricultural practices and standards. Our Company's supply chain starts with the hard work of around 32,400 registered farmers within the village community.



# REPORT PART

# Chapter 3: Working Capital Management in BATB

## **3.1. Working Capital Policy:**

In simple terms working capital can be defined as current assets minus current liabilities. When a company is unable to manage its current liability through its current assets liquidity problem arises. This can threaten the future existence of the company. On the other hand when there are excess cash, a company should invest in short term securities to enhance the wealth of the shareholders. Working capital policy can be mainly classified in three categories. They are defensive policy, aggressive policy and conservative policy.

If the firm can forecast accurately its level and pattern of sales, inventory procurement time, inventory usage rates, level and pattern of production, production cycle time, split between cash sales and credit sales, collection period, and other factors which impinge on working capital components, the investment in current assets can be defined uniquely.

In case of uncertainty, the outlay on current assets would consist of a basic component meant to meet normal requirements and a safety component meant to cope with unusual demands and requirements. The safety component depends on how conservative or aggressive is the current asset policy of the firm. If the firm pursues very conservative policy it would carry a high level of current assets in relation to sales.

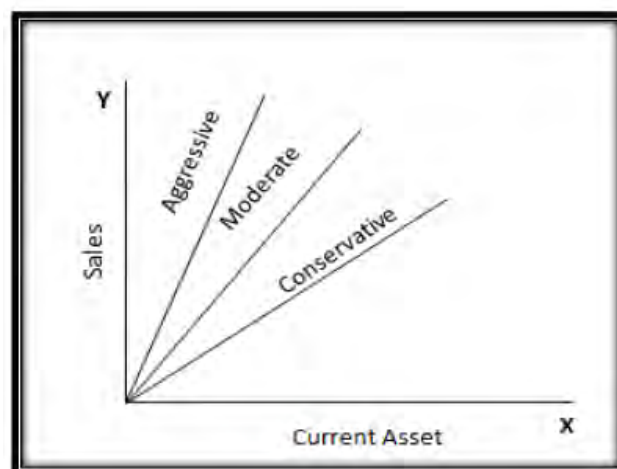


Figure 4: WCM Policy

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If the firm adopts a moderate policy, it would carry a moderate level of current assets in relation to sales. Finally, if the firm follows a highly aggressive policy, it would carry a low level of current assets in relation to sales. The relationship between current assets and sales under these different current asset policies is shown in the above figure.

A conservative current asset policy tends to reduce risk. The surplus current assets under this policy enable the firm to cope rather easily with variations in sales, production plans, and procurement time. Further, the higher liquidity associated with this policy diminishes the chances of technical insolvency. The reduction of risk, however, is also accompanied by lower expected profitability.

The aggressive working capital policy is company's intention to fund its working capital through short term debt. This policy is thought to be cheap because funds such as overdraft can be called upon when needed and the interest will be paid only when an overdraft is taken unlike long-term debt where interest has to be paid for the entire loaned amount for the year.

### **3.2. Working Capital Policy in BATB**

On the basis of previous discussion it can be referred that BATB follows an aggressive working capital policy. This company finances their working capital through short term debt, for instance bank overdraft. In an aggressive working capital policy the whole amount of current assets are financed by short-term debt. Some part of the non-current assets also will be finance by short-term debt. This policy will push the finance department to be proactive in the management of working capital always, as they need to sell stocks fast and collect receivables on a timely manner. In order to, settle the short term debts on time. As BATB has higher sales or growth aggressive working capital policy suits them the most. As mentioned before if a firm follows a highly aggressive policy, it would carry a low level of current assets in relation to sales. Let's have look towards the current asset situation in terms of sales of BATB. From the below table it is clear that the amount of current asset is less than the amount of sales of the company.

Year	Current Asset	Gross turnover (Sales)
2015	15,925,816.00	143,711,664
2014	15,056,444.00	126,804,602
2013	9,950,631.00	109,581,710
2012	9,172,866.00	90,174,080
2011	7,774,415.00	75,357,351
2010	8,053,871.00	65,986,503
2009	8,210,514.00	55,074,651
2008	6,525,529.00	45,414,187
2007	4,341,659.00	37,869,293
2006	4,824,488.00	34,994,149.00

Table 2: Determining WC Policy in Terms of Current Asset & Sales

Another way of determining the nature of working capital policy is illustrated by Afza & Nazr (2007). According to them aggressive financing policy supports the utilization of high levels of current liabilities versus long-term liabilities. Formula is:

$$\text{Financing Policy} = \text{Current Liabilities} / \text{Total Asset}$$

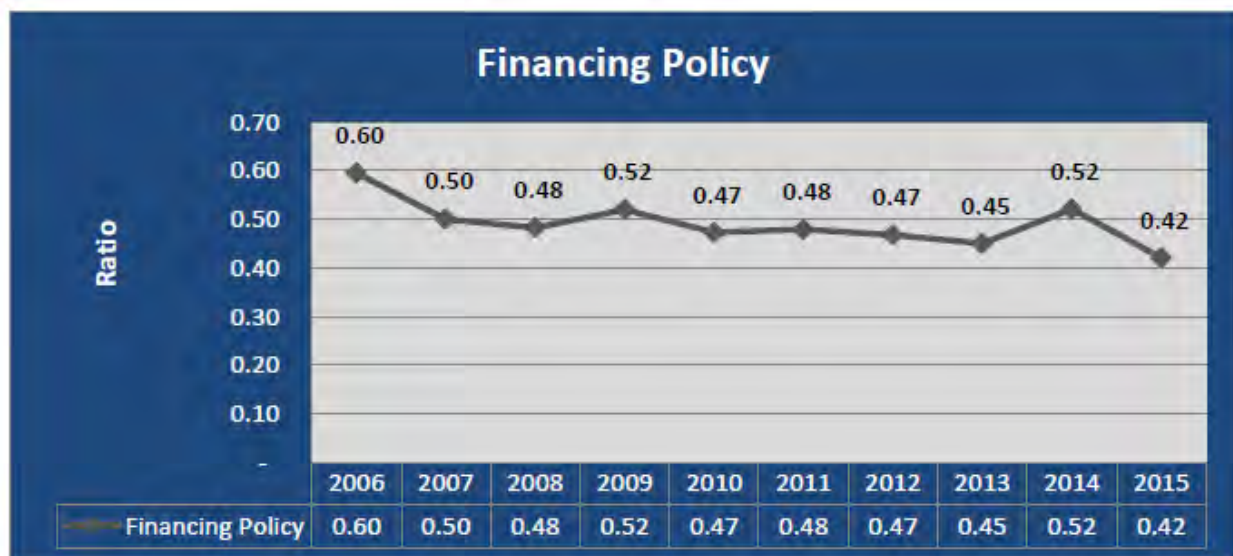


Figure 5: Ratio of Current Liabilities to Total Asset of BATB (2006-2015)

In BATB the ratio of current liabilities to total asset is high which means major portion of their current liabilities are used to finance their total asset.

### 3.2.1. Inventory Management:

Inventory Period is an efficiency ratio that shows how quickly a company uses up its supply of goods over a given time frame. While inventory period is shortening in some industries, such as grocery stores, than in others, such as department stores, comparatively lengthening inventory period means that a company has poor sales or too much inventory. It is computed by dividing inventories by the company's average daily cost of goods sold.

$$\text{Inventory Period} = \text{Inventories} / (\text{COGS}/365)$$

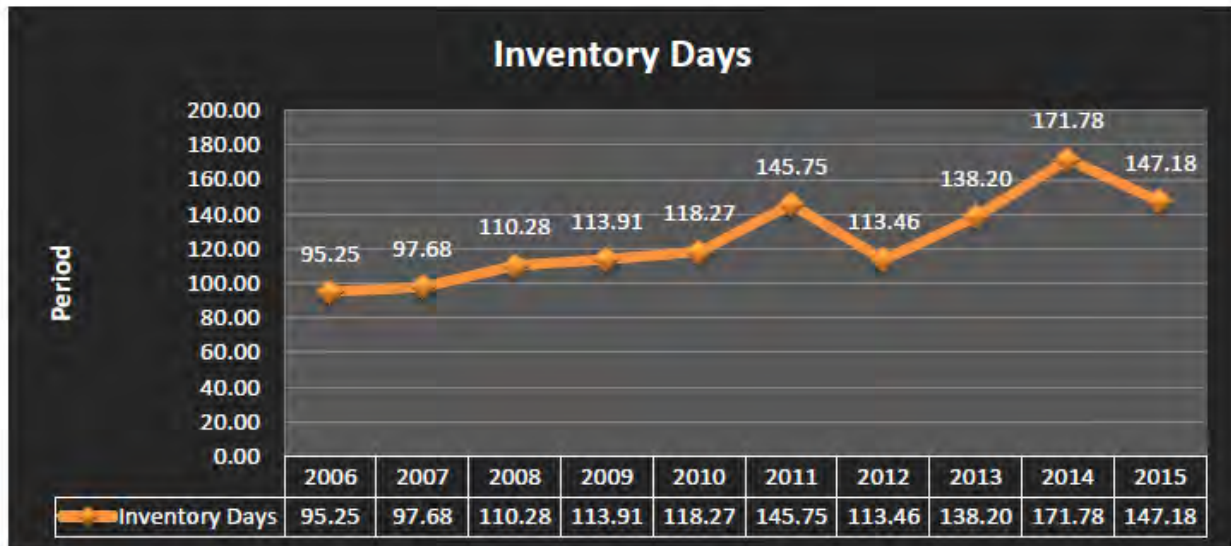


Figure 6: Inventory Period

From the above analysis we can see that the inventory conversion period was lowest in the year 2006. After that there is a rise in the inventory conversion period which is a sign of decrease in performance of the products. The reason behind this is several restriction imposed on tobacco industry by government. But in the year 2015 BATB has managed to decrease their inventory period which is a positive sign for the company.



### 3.2.2. Accounts Receivable Days:

Number of Days Accounts Receivable is the length of time required to collect cash receipts. (Hillier et al. 2010). It is also called "Days of Sales Outstanding". Lesser the time of Accounts Receivable that means more efficient CCC. AR is a very important module of WCM that fulfills its term to efficiency. Accounts Receivable is calculated by dividing the receivables by the net sale per day.

$$\text{Accounts Receivable Period} = \text{Receivables} / (\text{Net Sales} / 365)$$

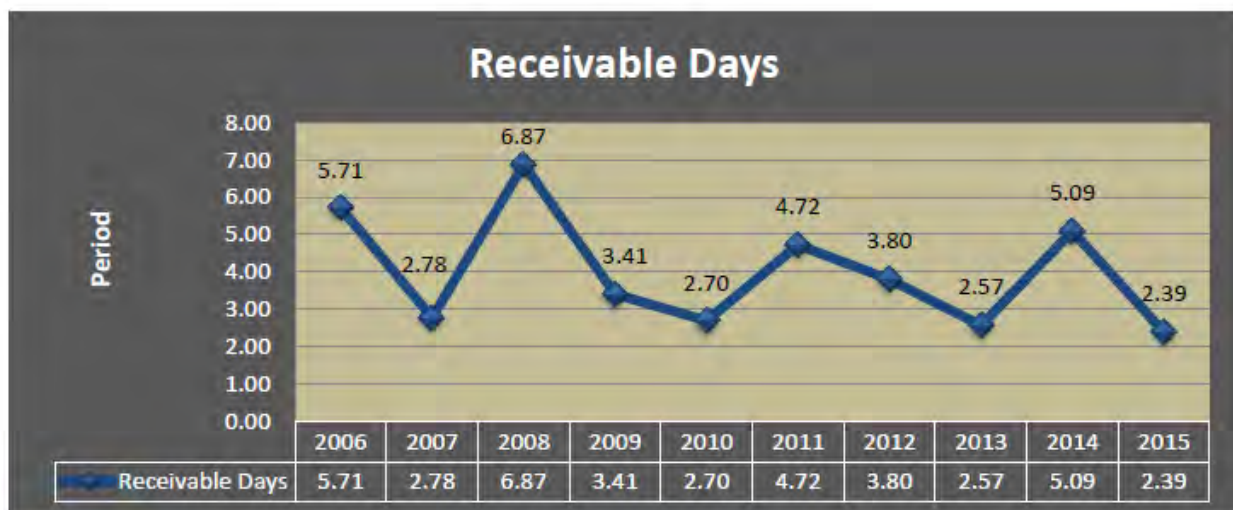


Figure 7: Accounts Receivable Period

The above figure shows that accounts receivable period of BATB is in between 2 to 6 days which is really satisfactory. It means they collect money from their customers within a very short period of time. This indicates their efficiency in cash conversion cycle.

### 3.2.3. Accounts Payable Period:

Accounts Payable is very important component of WCM. It is the length of time for which the firm is able to delay payment on the purchase of raw materials to its suppliers. The longer the period of AP, company has better opportunity to finance on other things. It helps the company to reduce costs by not taking loans for other expenses. Accounts Payable Period is calculated by dividing trade payables by the company's cost of goods sold per day.

$$\text{Accounts Payable Period} = \text{Trade Payables} / (\text{COGS} / 365)$$

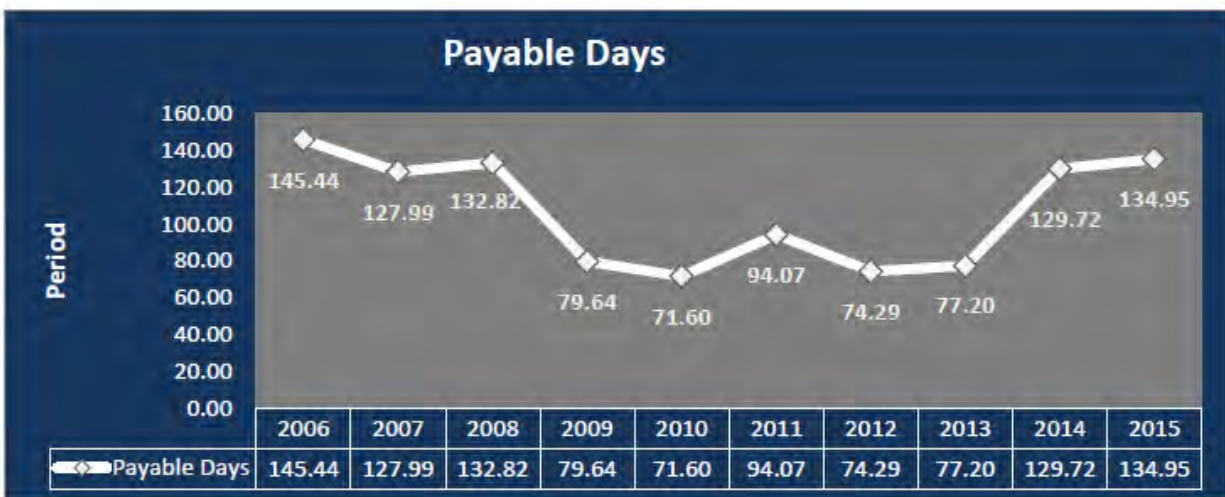
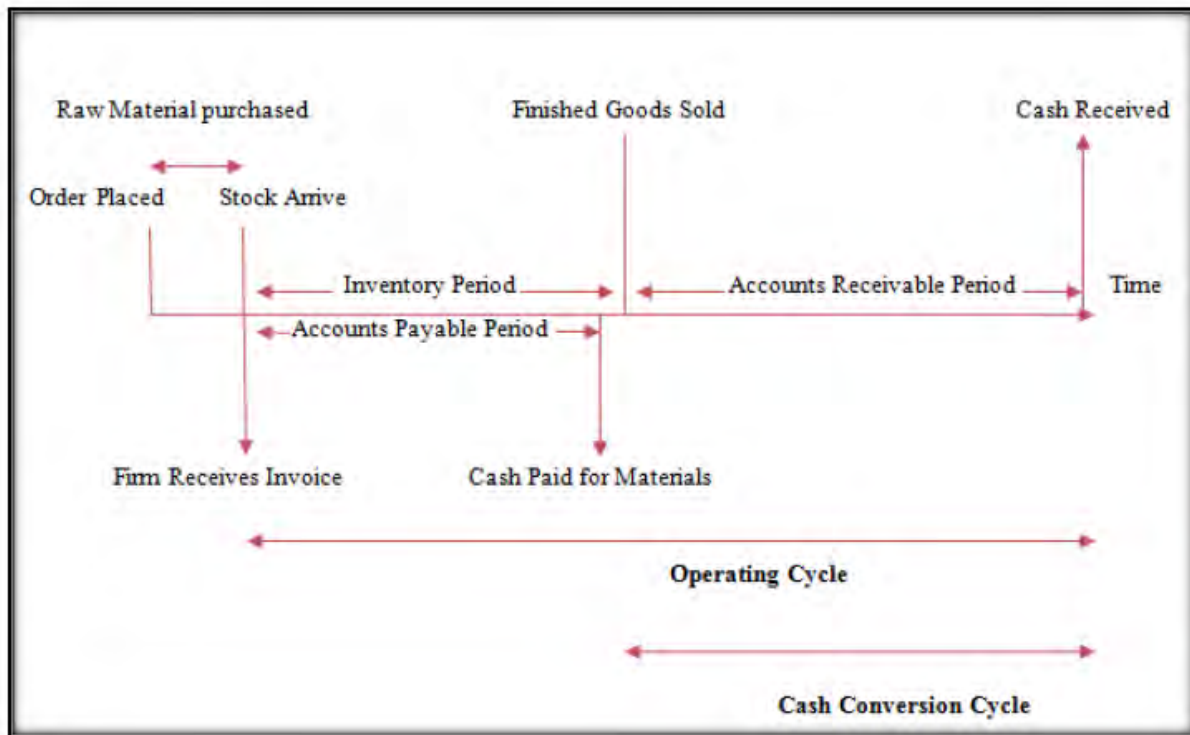


Figure 8: Accounts Payable Period

We know that higher the payment period the better. In comparison with BATB's receivable period they hold a higher payable periods. Though payable days were higher in 2006-2008, early payment in later years has its advantage such as good reputation among creditors. In order to ensure highest possible amount of cash in hand payable period were increased to 129.72 and above in the year 2014 and 2015.

### 3.2.4. Cash Conversion Cycle:

Here is a cash flow time line for a typical manufacturing company by (Hillier et al, 2010, Pg. 724)



*Figure 9: Cash Flow timeline and short-term operating activities of a typical manufacturing firm*

Operating Cycle is the interval between the order of inventory stock and the date when cash is collected from receivables. And CCC begins when the company pays cash to suppliers for the materials purchased and ends when cash is collected from customers for credit sales.

In general,

$$\text{CCC} = \text{Operating Cycle} - \text{Accounts Payable Period}$$

Or

$$\text{CCC} = (\text{Inventory Period} + \text{Accounts Receivable Period}) - \text{Accounts Payable Period}$$

CCC mainly helps to figure out how cash is moving throughout the company in terms of duration. When CCC shortens that means the company has more cash for other usages such as investing on equipment or innovating manufacturing and selling process. On the other hand, when CCC lengthens, cash tied up in firm's operation activities where there is little chance for other investment.

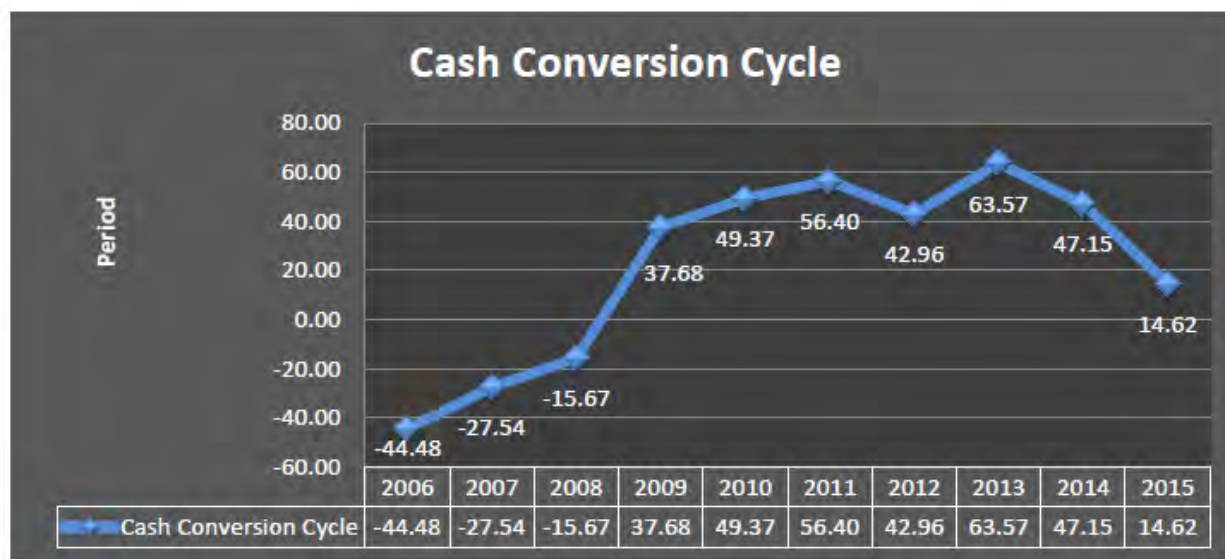


Figure 10: Cash Conversion Cycle

In the above figure, it shows CCC of BATB for 2006-2008 is negative. That basically means they are getting paid by their customers long before they pay their suppliers. Essentially this is an interest free way to finance their operations by borrowing from their suppliers. After 2008 CCC becomes positive and started to fluctuate in a tolerable range.

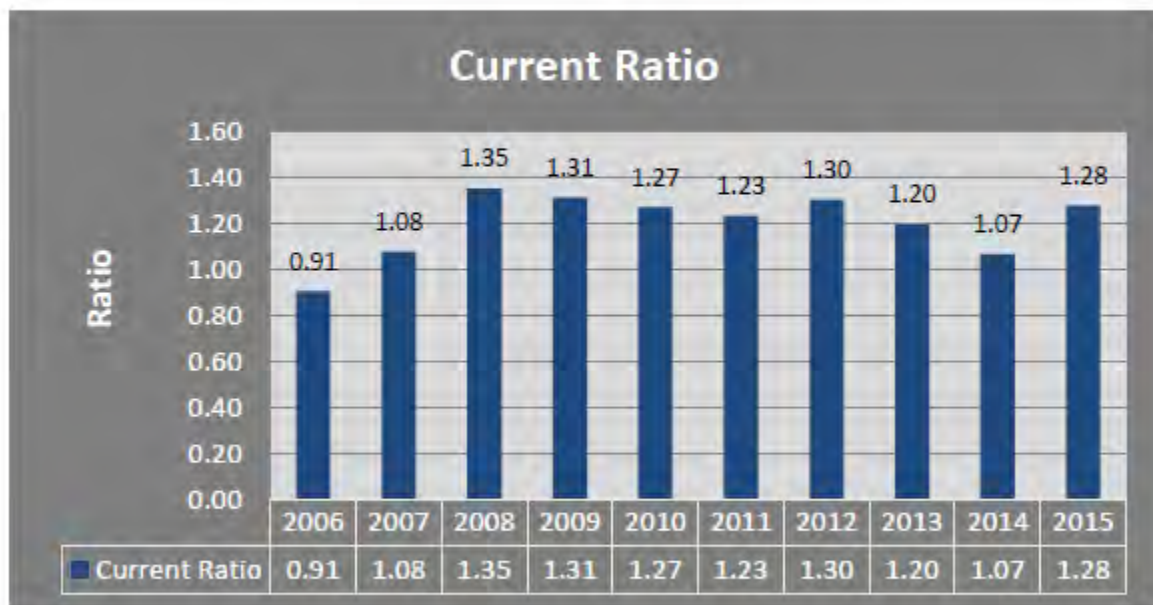
### 3.2.5. Cash Management

One of the techniques of assessing working capital management is measuring the performance of cash management. The finance manager must maintain adequate liquidity so that the firm can pay off its obligations. In order to test the liquidity of a firm one of the best techniques that can be used is the liquidity ratios.

➤ **Current ratio**

The liquidity and efficiency ratio that evaluates an organization’s capability in paying off its short-term debts using the current assets is called current ratio.

$$\text{Current Ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}}$$



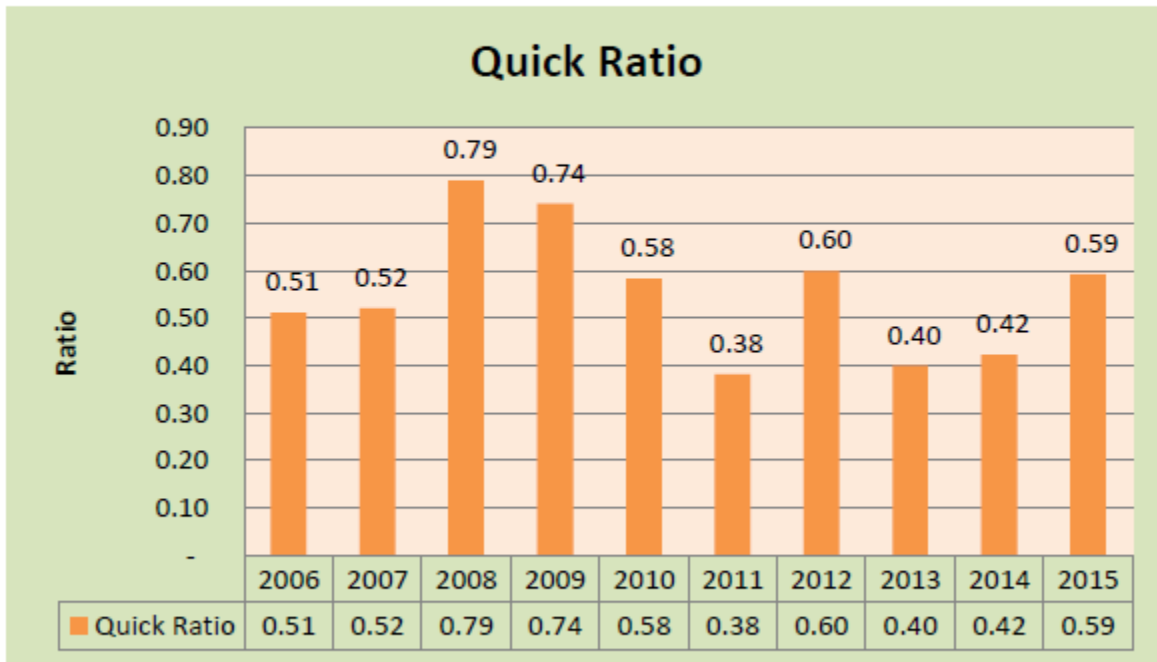
*Figure 11: Current Ratio*

This chart shows that the current ratio is fluctuating over the years. The rate is between 1 and 1.3 which indicates a sound liquidity position of the company.

➤ **Quick Ratio**

Quick ratio measures how efficiently the company can pay off its short term financial liabilities. It is a better measure than current ratio as it deducts less liquid assets such as inventory.

$$\text{Quick Ratio} = \frac{\text{Current Assets} - \text{Inventory}}{\text{Current Liabilities}}$$



*Figure 12: Quick Ratio*

From the above chart a fluctuating quick ratio of BATB can be observed over the years. But it is considered that a quick ratio of 1:1 is satisfactory. So it can be said that BAT Bangladesh is not performing very well in managing its cash even though according to the current ratio indicates otherwise. In the year 2011 the ratio was lowest which indicates decreased current asset in comparison to current liabilities. After 2011 the ratio started to increase, though it is still very low. This should be taken care by the management of the organization soon.

## Chapter 4: Research Design

This research is ex-post facto research. This approach evaluates the relationship between variables which have been already occurred. Here variables were used to test the relationship between the working capital management and the profitability. I have used quantitative methods as financial data collected from the database was analyzed.

The time series will be used to do the research. This is because I am going to use ten year time periods and observe the behaviors of working capital components, debt and size of the firm throughout those ten years from 2006 to 2015.

**Determinants of Working Capital - Variables Definition, Code and Expected Signs of Influence**

Variables	Code	Description of Variables	Hypothesis	Expected Signs
Net Income	NI	Net Income, measure of profitability		Dependent Variable
X <sub>1</sub>	RD	Receivable days, time gap in the collection of money from the customers	Higher gap in collecting money from customers lowers the profitability	(-)
X <sub>2</sub>	PD	Payable days, credit period offered by the suppliers	Higher the payable days higher the profitability	(+)
X <sub>3</sub>	ID	Inventory days represents how long a company is holding their inventory	Higher the inventories day lower the profitability.	(-)
X <sub>4</sub>	GR	Gearing, amount of debt against total asset of the company	Higher the gearing, lower the financial health of the company	(-)
X <sub>5</sub>	CCC	Cash Conversion Cycle, movement of cash in terms of duration	Higher the CCC lowers the profitability.	(-)
X <sub>6</sub>	Size	Size of the firm, determined by log of sales (Here sales is the proxy variable)	Greater the size of the firm, higher the profitability	(+)

*Table 3: Summary of Research Variables & Hypothesis*

# Hypothesis

## Hypothesis 1

H0: There is no relationship between receivable period and profitability

H1: Receivable period and profitability are negatively related – higher the receivable period lower the profitability.

## Hypothesis 2

H0: There is no relationship between the inventories days and the profitability.

H2: The inventory days are negatively related to the profitability – higher the inventories day lower the profitability.

## Hypothesis 3

H0: There is no relationship between the payable days and the profitability.

H3: The payable days are positively related to the profitability – higher the payable days higher the profitability.

## Hypothesis 4

H0: There is no relationship between the cash conversion cycle and the profitability. H4: Cash conversion cycle (CCC) is negatively related to the firm's profitability – higher the CCC lowers the profitability.

## Hypothesis 5

H0: There is no relationship between the debt and the profitability.

H5: There is a negative relationship between the debt equity ratio and the profitability.

## Hypothesis 6

H0: There is no relationship between the size of the firm and the profitability.

H6: There is a positive relationship between the size of the firm and the profitability.



## Model

The model is developed on the basic components of WCM. As my selected topic is to analyze the impact of WCM on profitability, receivable, payable and inventory periods are the basic and core measures. Net income was considered as the benchmark of profitability as it is the amount after all kind of deduction. Gearing and CCC cycle was taken to get a better idea about the relationship as these two sometimes determine profitability. Finally size of a firm may influence profitability. As it is a manufacturing firm and has higher sales, logarithm of sales was considered as size of the firm.

$$\text{NI} = f [\textit{Receivable days}(X1), \textit{Payable Days}(X2), \textit{Inventory Days}(X3), \textit{Gearing}(X4), \textit{Cash Conversion Cycle}(X5), \textit{Size of the firm}(X6)]$$

# Chapter 5: Analysis & Discussion

## 5.1. Descriptive Analysis:

Descriptive statistics are used to describe and discuss characteristics of a data. It has significant amount of quantitative or qualitative data. Mean is to measure central tendency which is the average value of a data set whereas standard deviation to measure dispersion of the studied sample in which it is the average difference between observed values and the mean.

	N	Minimum	Maximum	Mean	Std. Deviation
Receivable Days	10	2.39	6.87	4.0025	1.53071
Payable Days	10	71.80	145.44	106.7721	29.82855
Inventory Days	10	95.25	171.78	125.1762	24.57227
Gearing Ratio	10	.00	11.63	2.0584	4.38481
Cash Conversion Cycle	10	-44.48	63.57	22.4066	38.47455
Size of the firm	10	7.54	8.16	7.8472	.21700
Valid N (list wise)	10				

*Table 4: Descriptive Analysis*

Above table shows the descriptive statistics of the variables used in the study. It embodies number of observation, minimum, maximum, mean, and standard deviation of the variables used. The organization receives payment from the customers at an average of 4 days and the standard deviation of the receivable day is 1.53 days which is a positive indicator for the organization.

The maximum value of payable days is of 145.44 days which is very significant. The average 106.77 days indicates approximate three months credit period. The mean value of inventory days is quite high by 125.176 days. It can influence the profitability negatively.

The average value of cash conversion cycle is 63.57 and the minimum value is -44.48. The reason behind negative CCC is the significant difference between receivable and payable periods.

## 5.2. Correlation Analysis:

Correlation is a statistical measure that indicates the extent to which two or more variables fluctuate together. This study contains Pearson correlation analysis to define the relationship between firm's profitability and Working Capital Management.

The correlational interpretations were done on Pearson correlation coefficients. For all the relationships analyzed in this study, the correlation coefficients from both the types were relatively close with insignificant differences in their numbers. The correlation coefficients are interpreted in this report as per the following scale:

- to 0.2 Very weak, negligible
- 0.2 to 0.4 Weak, low
- 0.4 to 0.7 Moderate
- 0.7 to 0.9 Strong, high, marked
- 0.9 to 1.0 Very strong, very high

The Correlations table provides three pieces of information:

- The Pearson Correlation, which will range from +1 to -1. The further away from 0, the stronger the relationship.
- The two-tailed significance level. All correlations with a significance level less than 0.05 will have an asterisk next to the coefficient.
- N, which is the sample size.

Correlations

		Net Income	Receivable Days	Payable Days	Inventory Days	Gearing Ratio	Cash Conversion Cycle	size of the firm
Net Income	Pearson Correlation	1	-.327	-.144	.861**	.145	.648*	.980**
	Sig. (2-tailed)		.356	.692	.001	.690	.043	.000
	N	10	10	10	10	10	10	10
Receivable Days	Pearson Correlation	-.327	1	.477	-.092	.462	-.389	-.380
	Sig. (2-tailed)	.356		.163	.801	.179	.267	.279
	N	10	10	10	10	10	10	10
Payable Days	Pearson Correlation	-.144	.477	1	-.024	.521	-.772**	-.231
	Sig. (2-tailed)	.692	.163		.948	.123	.009	.520
	N	10	10	10	10	10	10	10
Inventory Days	Pearson Correlation	.861**	-.092	-.024	1	.282	.653*	.861**
	Sig. (2-tailed)	.001	.801	.948		.430	.040	.001
	N	10	10	10	10	10	10	10
Gearing Ratio	Pearson Correlation	.145	.462	.521	.282	1	-.205	.030
	Sig. (2-tailed)	.690	.179	.123	.430		.570	.934
	N	10	10	10	10	10	10	10
Cash Conversion Cycle	Pearson Correlation	.648*	-.389	-.772**	.653*	-.205	1	.714*
	Sig. (2-tailed)	.043	.267	.009	.040	.570		.020
	N	10	10	10	10	10	10	10
size of the firm	Pearson Correlation	.980**	-.380	-.231	.861**	.030	.714*	1
	Sig. (2-tailed)	.000	.279	.520	.001	.934	.020	
	N	10	10	10	10	10	10	10

\*\* . Correlation is significant at the 0.01 level (2-tailed).

\* . Correlation is significant at the 0.05 level (2-tailed).

The result shows a negative relationship between net income and receivable days which is  $-.327$  but the P value of  $.356$  shows an insignificant relationship between profitability and receivable days. The correlation result between the payable days and profitability also indicates the similar result with negative coefficient of  $-0.144$  and  $.692$  p-values, so this also indicates that there is no significant relationship between the payable days and profitability.

The coefficient for the inventory day is  $.861$  which indicates a strong positive correlation with profitability which is significant with a p-value of  $.001$ . CCC shows a positive relationship which is significant.

The relation between size of the firm and profitability is strongly correlated with a coefficient of  $0.98$ . It can be noticed that the probability of the null hypothesis being true for this relationship is extremely small (less than  $0.01$ ). So, we reject the null hypothesis and conclude that there is a positive, linear relationship between sales or size of the firms and profitability.

As the loan amount borrowed by BATB is very small the correlation coefficient of gearing ratio and profitability is not much significant.

### 5.3. Multiple Regression Analysis:

Regression analysis is a statistical process for estimating the relationships among variables. It includes many techniques for modeling and analyzing several variables, when the focus is on the relationship between a dependent variable and one or more independent variables. When only one independent variable is taken into account, the procedure is called a simple regression. If you use more than one independent variable, it's called a multiple regression.

The Model Summary table (Pg-43) provides several measures of how well the model fits the data. R (which can range from 0 to 1) is the correlation between the dependent measure and the combination of the independent variable(s), so the closer R is to 1, the better the fit. In this example, we have an R of 0.988, which is huge. This is the correlation between the dependent variable and the combination of the five independent variables used in this study. R can also be considered as the correlation between the dependent variable and the predicted values.

Adjusted R Square represents a technical improvement over R Square in that it explicitly adjusts for the number of predictor variables relative to the sample size. If Adjusted R Square and R Square differ dramatically, it's a sign either that researcher have too many predictors or the sample size is too small. In this situation, Adjusted R Square has a value of 0.944, which is very similar to the R Square value of .975 which means author was not capitalizing on chance by having too many predictors relative to the sample size (Pg-43).

The Standard Error of the Estimate provides an estimate (in the scale of the dependent variable) of how much variation remains to be accounted for after the prediction equation has been fit to the data.

ANOVA table (Pg-43) is used to determine whether a statistically significant relationship between the dependent variable and the combination of independent variables which means if the correlation between dependent and independent variables differs from zero (zero indicates no linear association). The Sig. column provides the probability that the null hypothesis is true. It means no relationship between the independent and dependent variables. From the analysis (Pg-43) we have found that the probability of the null hypothesis being correct is extremely small (less than 0.05), so the null hypothesis has to be rejected.

Coefficients<sup>a</sup>

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-73576986.993	13309806.387		-5.528	.005
	Receivable Days	-17422.738	143433.680	-.013	-.121	.909
	Payable Days	2759.114	6813.219	.040	.405	.706
	Inventory Days	-5324.660	15857.629	-.064	-.336	.754
	Gearing Ratio	54660.298	49427.040	.116	1.106	.331
	size of the firm	9817587.315	1868425.513	1.035	5.254	.006

a. Dependent Variable: Net Income

The B coefficients are important for both prediction and interpretive purposes; however, analysts usually look first to the t test at the end of each row to determine which independent variables are significantly related to the outcome variable. Looking at the significance values, we see that only two of the predictors are statistically significant (Significance level is 0.05).

Receivable days have a B coefficient of BDT -17422.738 which means each additional increase in receivable period will decrease the salary by BDT 17422.738. Increase in payable days will increase the net income by BDT 17422.738, though it is not significant. If the sales increase net income will increase by BDT 9817587.315 which is significant.

# Chapter 6: Findings and Conclusion

## **Findings**

After conducting the report through various analysis and evaluation of influence of WCM on BATB's Profitability, many findings have been found; it includes both positive and negative findings.

The function of corporate finance department of BATBC is distinguished and certain. This has sound standard operating procedures for accomplishing every task. BATBC has an efficient and effective distribution strategy. BATB follows an aggressive working capital policy (Figure-4 & Table-2). It's collection of sales proceeds system and fund disbursement systems are convenient for both customer and suppliers. For effective fund collection system the collection of account receivable is excellent over the years and it takes in between 2 to 6 days low processing time to collect fund which is satisfactory. For efficient liquidity management the department is able to make payment to its creditor as early as possible. Hence accounts payable period is comparatively low in this organization which is 129.72 and above in the year 2014 and 2015.

The inventory conversion period of BAT Bangladesh is too high hitting a maximum of 171.78 (Figure-6) in the year 2013-2014. Since it cannot convert inventory into sales quickly enough, its inventory increases resulting in decreased quick ratio. This higher inventory period ensure smooth supply of the products to the customers.

BATB has strong and good liquidity position and had no opportunity to run out from short-term financial solvency and this ability rises gradually (Current/Quick/Cash). The current ratio rate is between 1 and 1.3 which indicates a sound liquidity position of the company. But after 2011 the quick ratio which was 0.38 started to increase, though it is still very low. BATB's most of debts consist of creditors, accrual and bank overdraft where borrowing cost is insignificant. BATB's asset-liability management efficiency increased day by day. The company increases its sales through inventory control and was efficiently managing and selling its inventory so they tied up the fewer funds.

After analyzing the correlation between profitability and working capital components, it has been found that inventory period, CCC and size of the firm have significant impact on profitability (Pg-36). After regression analysis shows a positive relation of profitability with payable days, gearing ratio and size of the firm (Pg-38). The analysis shows negative relation of receivable period and inventory period with profitability (Pg-38).

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# Conclusion

One of the best ways to judge a company's cash flow health is to take a deep look on its working capital management. The better a company can manage its working capital the lower company's need of borrowing.


Working capital management of BATBC Ltd. is highly effective. The project is very much profitable. There is available internal source of fund due to satisfactory amount of period during the period under study. They have no difficulties in management of inventory, debtors, cash balances and current liabilities. The liquidity position of the company is also very much satisfactory due to good turnover of current assets, inventory debtors and cash balances. The company enjoys good facility of cash credit and other working capital loan though the borrowing amount of the company is very low. There is no difficulty in repayment of current liabilities out of the operating profit.

Working Capital Management of BATB has been doing very important to the company. It has lots of challenges as competition increases in the market and also has lots of scope of developing in several areas. If challenges can be faced technically by maintaining continuous support to sales teams and dealers then the credit management practice of this company can be more effective to the overall development of the company.



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# Appendix

**Variables Entered/Removed<sup>a</sup>**

Model	Variables Entered	Variables Removed	Method
1	size of the firm, Gearing Ratio, Payable Days, Receivable Days, Inventory Days <sup>b</sup>		Enter

- a. Dependent Variable: Net Income  
b. b. Tolerance = .000 limit reached

**Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.988 <sup>a</sup>	.975	.944	486046.99056

- a. Predictors: (Constant), size of the firm, Gearing Ratio, Payable Days, Receivable Days, Inventory Days

**ANOVA<sup>a</sup>**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3715556986948 6.200	5	7431113933897 .240	31.456	.003 <sup>b</sup>
	Residual	944966708123. 401	4	236241677030. 850		
	Total	3810053637760 9.600	9			

- a. Dependent Variable: Net Income

- b. Predictors: (Constant), size of the firm, Gearing Ratio, Payable Days, Receivable Days, Inventory Days