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PROFITABILITY ANALYSIS OF WORKING CAPITAL MANAGEMENT

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1. INTRODUCTION

1.1. Topic

The topic for the study is "Effect of Working Capital Management on Profitability". The study mainly focuses on finding the effect of different components of working capital management on the profitability of a firm. The study also deals with the concept of working capital management and profitability and the relationship between the two.

1.2. Background of Study

Businesses play an important role in the formation of a country's capital and are therefore considered to be the heart of a growing economy. Therefore, the management of a business must be done efficiently and effectively. Today the main problem faced by the fund manager is the meaningful deployment of funds acquired to generate maximum returns. Working capital management has a vital role in this, i.e. financial management because it instantly influences the company's profitability. The efficiency of working capital management is important for all companies, in particular for manufacturing ones, where an important part of the asset is current assets, mainly inventory and trade receivables. Working capital mostly exhibits the current assets of an enterprise that changes to another form on the daily execution of the activities. Working capital is a portion of a company's operating capital, mainly current assets like cash in hand, cash at bank, stock, trade receivables, etc. The net working capital of an enterprise can be assessed by subtracting all current liabilities from current assets. While doing so, if there is a deficit working capital then the net working capital of an enterprise has a negative value, and, on the contrary, the enterprise has surplus working capital if the net working capital is positive. When financial managers make any decisions relating to current assets and current liabilities, it is referred to as working capital management (WCM). Working capital management provides sufficient cash for the company to meet its short-term obligations. Working capital management (WCM) is the method of regulating and monitoring the firm's current assets and liabilities to ensure that the firm's objectives are achieved and therefore maintain a safe and healthy functioning of the firm.

Profitability is referred to as the rate of return one receives from the amount of investment made by them. If anything affects the investment in current assets, this may affect the return on investment negatively. The main purpose of working capital management is the allocation and monitoring of a firm's current financial resources to maintain a balance between a firm's profitability and the risk resulting from that profitability. Working capital is a crucial part of business investment, essential for survival and ongoing business operations. Working capital important for any company to sustain the solvency, liquidity, and profitability. Working capital management easily affects both the company's profitability and the desired liquidity level. Therefore, it can have positive as well as negative effects on the profitability of the company that in turn will influence the wealth of shareholders both positively and negatively. If an enterprise invests more in working capital, the profits thus generated can be rigid or non-current assets decrease. But in these cases, the firm has to keep its stock for an extended period and therefore has to bear a high inventory cost and the cost of managing these excess inventories. It has, therefore, become an important problem to have a knowledge and understanding of the consequences of working capital management and its control on the profitability of the company. Lots of research has been conducted on working capital management especially in developed countries where it is a key issue to explain the relationship between working capital management and profitability. As we look into the findings of various researchers or by examining various researches, different results and conclusions emerged.

Working capital management has a crucial role in profitability growth. This is due to the

difficultly a company faces on the smooth running of operations without proper working capital management. This is why a large number of financial managers are dedicated to working capital management. Accordingly, one of the significant roles of managing working capital is preserving the necessary liquidity in the daily business operations to make sure the well- functioning of the firm and meeting its obligations. Therefore, this study aims to determine the effects of working capital management on profitability by mainly focusing on one of the top companies from five different sectors for the last five years.

1.3. Statement of Purpose

This paper clearly explains the concept of working capital, working capital management, and profitability.

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The main focus of the study is to find out the effect of various components of working capital management on the profitability of a firm. Thus it helps to have a clear understanding of the relationship between the two. One of the top companies from five different sectors for five years (i.e. five companies for five years) is selected as the sample. The key objectives of this study are:

1. To review the effect of the average collection period (ACP) on a company's profitability.
2. To review the effect of the average payment period (APP) on a company's profitability.
3. To investigate the effect of inventory turnover in days (ITD) on a company' profitability.
4. To examine the effect of the cash conversion cycle (CCC) on a company's profitability.
5. To investigate the effect of liquidity on a company's profitability.

1.4. Organization of the Paper

The paper will be organized through an abstract, introduction, review of literature, description of the topic, discussion, and conclusion. The abstract provides a brief idea about the study. Further going through the introduction part one can understand the detailed area of discussion stating the relevance of the study as well as the statement of the problem which provides the focus of the term paper as well as the objectives of the study. Reviewing the existing literature will give an idea about the conclusion made by various research scholars on the relationship between different components of working capital management and profitability. This will be followed by a description, were a detailed study on working capital, working capital management and profitability are made. The method used in the study is correlation analysis to figure out the consequences of each component of working capital management on profitability. The discussion is done based on the insights received through the analysis and thereby arriving at a meaningful conclusion.

The reference management is also applied for further references and clarifications regarding the term paper. The data used in the term paper is taken only from authentic sources for the genuine preparation of the term paper.

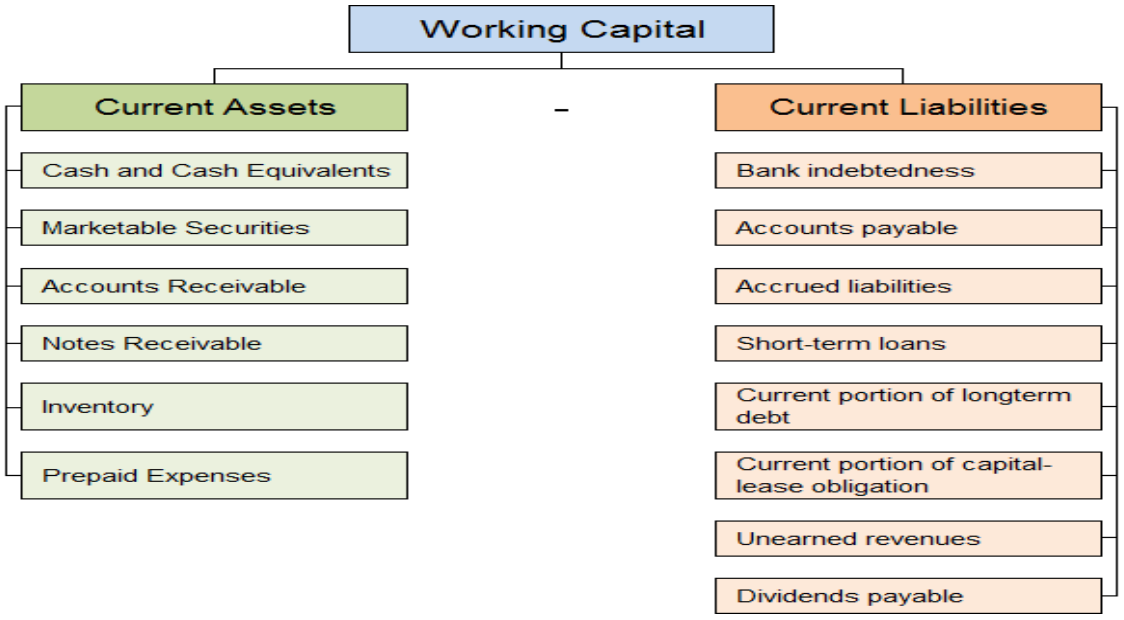
2. DESCRIPTION OF THE STUDY

2.1. WORKING CAPITAL

2.1.1. Introduction

All organizations needs funds to finance their assets and operations. There is a need to contribute on fixed assets and current assets. Fixed assets are those which stays in the business for over one year whereas current assets are those assets which, in ordinary routine of the business, get changed into cash or cash equivalent within one year. Decisions to contribute resources in fixed assets must be taken cautiously as the investment is usually generally very large. Such decisions are irreversible aside from at a gigantic loss and are called capital budgeting decisions.

Aside from the investment in fixed assets all business association must invest in current assets. This investments encourages smooth everyday activities of the business. Current assets are normally more liquid yet contribute less to the profit as compared to the fixed assets. These give liquidity to the business. The asset is more liquid if it can be converted into cash quickly and without reduction in value. Inadequate investment in current assets may make it increasingly hard for an organization to meet its payment. In any case, these assets give low return. Subsequently, a parity should be struck between liquidity and profitability. Current liabilities are those that fall due inside one year.



Some current assets are commonly funded through transient sources, i.e., current liabilities. The rest is financed through long term sources and is called Net Working Capital (NWC). Therefore, NWC = CA – CL (i.e. Current Assets – Current Liabilities). So, net working capital may be characterized as the excess of current assets over current liabilities. In short, the

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components of working capital are current assets and current liabilities.

2.1.2. Importance of Working Capital

- Working capital is supposed to be the core of the business. Every business needs funds to run its daily activities.
- The significance of working capital can be better comprehended from the below points:
- It assists with estimating the profitability of an enterprise. Without it, there is no production and therefore no profit.
- Without adequate working capital, an entity can't meet its current liabilities on schedule.
- A firm with a solid working capital position can undoubtedly lend from the market on account of its high reputation or goodwill.
- Adequate working capital keeps up a continuous flow of production by giving raw materials and paying wages.
- Adequate working capital assists with keeping up the ideal level of investment in current assets.
- It gives necessary funds to meet unexpected occasions and in this way encourages the endeavour to run effectively during times of emergency.

2.1.3. Nature of Working Capital

- Utilized for the acquisition of raw materials, pay expenses and wages.
- It continually changes to keep the business moving.
- It helps to improve the liquidity, solvency, creditworthiness, and reputation of the venture.
- Generates the cost components, namely: Materials, wages, and costs.
- It empowers the venture to exploit the cash discount facilities offered by its providers.
- It assists with improving the ethics and spirit of business officials and subsequently their efficiency touches its peak.
- Facilitates enterprise in undertaking development projects and assists with keeping up the operational productivity of fixed assets.

2.1.4. Need for Working Capital

- Working capital has a key role in business. This capital consistently stays obstructed in raw materials, work in progress, finished products, and with client.
- The working capital requirements are as follows:
- Adequate working capital is needed to keep up an uninterrupted supply of raw materials, subsequently encouraging the smooth running of the production procedure.
- Working capital guarantees the usual and uninterrupted payment of wages and compensations, thereby upgrading employee confidence and productivity.
- Effective utilization of fixed resources needs sufficient working capital
- Enhancing goodwill requires a solid level of working capital. It is required to build a decent reputation and make payments to loan bosses on time.
- Working capital assists to avoid the chance of under-capitalization.
- Stock of raw materials should be gathered in any event, during the economic downturn.
- Working capital is expected to deliver a reasonable dividend and interest rate on schedule, which expands investor trust in the business.

2.1.5. Types of Working Capital

a) **Gross Working Capital (GWC)**

An organization's total investment in current assets is known as Gross Working Capital. Those assets which can be changed into cash inside an accounting year or operating cycle are called current assets.

b) **Net Working capital (NWC)**

The distinction between current assets and current liabilities is the Net Working Capital. It is the excess of current assets over current liabilities. Net working capital is classified into two types:

(1) Positive Net Working Capital

At the point when the current assets surpass the current liabilities, it is known as positive net working capital.

Positive NWC = CA > CL

(2) Negative Net Working Capital

At the point when the current liabilities surpass the current assets, it is referred to as negative net working capital.

Negative NWC = CA < CL

c) **Permanent Working Capital**

It is otherwise called Fixed Working Capital. The business must keep up a certain amount of capital at least level consistently. Permanent or Fixed Working Capital stay unaltered regardless of time or volume of sales.

Tandon advisory group alluded to this sort of working capital as Hard Core Working

Capital. Permanent working capital is categorized into two: (1) Regular Working Capital

Regular working capital is the base amount of working capital which is to be kept up under ordinary conditions.

(2) Reserve Working Capital

It is likewise called as cushion working capital. It is a short term monetary plans made by the specialty unit in order to meet vulnerabilities. The reserve working capital can be utilized to meet the uncontrollable risks.

d) Temporary Working Capital

These capitals are otherwise called variable working capital or fluctuating working capital. It is the amount of capital needed to fulfill the occasional needs and some specific purposes. There is no uniform production and sale consistently. Sometimes the production is carried down dependent on the anticipation of demand, in such cases temporary working capital is required. These are additionally grouped into two:

(1) Seasonal Working Capital

Some product and services have occasional request like the demand which emerges because of certain festivals. Seasonal working capital are utilized to fulfill such seasonal needs of the product.

(2) Special Working Capital

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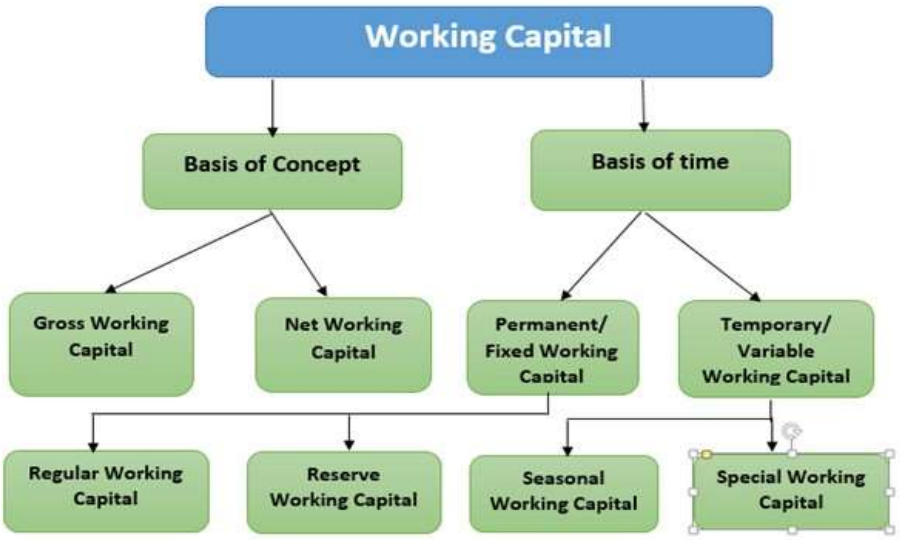
Unique projects like advertisement campaigns, sales promotion activities, etc. may be conducted for the development of business. Therefore an amount of working capital is kept up to meet the costs of uncommon projects of the organizations. Such working capital is known as special working capital.



2.2. WORKING CAPITAL MANAGEMENT

2.2.1. Introduction

Working capital management is the way towards planning and controlling the level and blend of the company's current assets just as financing these assets. Specifically, management of working capital requires budgetary supervisors to decide the amount of cash, other liquid assets, accounts receivable, and stock the firm will hold whenever. In addition, financial managers need to choose how the current assets will be financed. Financing choices incorporated the mix of current and also long term liabilities.

This high level of divisibility has two significant ramifications for working capital management, firstly, if the administration so chooses, working capital can be obtained sequentially to address prompt issues as they arise. Such an arrangement has the advantage of diminishing the normal investment in working capital, accordingly limiting the interest charges, insurance expenses, and storage fees necessary to carry the investment. However, the strategy has these inconveniences: there will be expanded ordering costs related with a more prominent probability that the firm may encounter a lack in working capital, because there is no buffer stock to retain unexpected fluctuations in necessity. By balancing the savings in carrying costs against the cost of shortage and of more frequent procurement, the management of a firm will commonly think that it is profitable to keep up its working capital at a level higher than the required to meet its quick needs. However, the relationships among carrying costs, shortage costs, and procurements costs are such that most firms will find that the economic level of working capital is no more than a few months' supply. This moderately short planning horizon in working capital decisions stands out sharply with the much longer planning horizon in fixed capital decisions.

The second implication on divisibility, which follows consistently from the main, concerns the suitable strategies for financing working capital investments. The fact that working capital only adds up to a few months' supply implies that the working capital cycle, a cycle running from cash to inventories, inventories to receivables, and receivables to cash, is estimated in months opposed to in years. This liquidity of working capital permits the management a corresponding flexibility in its financing choices. While fixed capital ought to for the most part be financed with long term sources of funds, working capital can be suitably financed with either long term funds, or short term funds, or a mix of two.

Therefore, when it comes to the management of working capital, the firm faces two key inquiries. Initially, given the degree of sales and the relevant cost consideration, what are the ideal amounts of cash assets, accounts receivables, and inventories that a business ought to decide to keep up? Also, in the light of ideal sums, what is the most prudent approach to finance these working capital investments? To deliver the most ideal returns, firms should not keep useless assets and should finance with the least expensive accessible sources of funds. Why? As a whole, it is really favorable for the firm to put its resources in short term assets and to fund with short term liabilities.

2.2.2. Importance of Working Capital Management

Efficient and effective management of working capital helps to keep the business activities smooth and thereby helps to increase the competitiveness and profitability. Working capital management includes inventory management, accounts receivables

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management, and accounts payables management. The core objectives of working capital management include maintaining and ensuring a structured operation of the operating cycle resulting in a reduction of the cost of capital spent on the working capital and a maximum return on current asset investments.

Working capital is a concept that is easy to understand since it is associated with the cost of living of an individual, which makes it more individually understandable. People have to collect the money they are owed and hold a certain sum regularly to cover their everyday expenditures, bills, taxes, and other routine costs.

Working capital is a common measure for the overall health of a company and for the productivity and liquidity of the company. The outcomes of various business activities, including profit generation, management of debts, management of inventory and payments to suppliers are reflected in the company's working capital. The explanation for this is that it includes stocks, payable and receivable, cash, and portions of debt due inside a period of one year and other short-term accounts.

Working capital needs always vary from industry to industry, and they may even vary among similar companies. It is due to several factors, including differences in collection and payment policies, the timing of the acquisition of assets, a company's probability of writing off some of its past-dues, and in certain cases, capital-raising efforts by a company. Financial insolvency occurs when a corporation has insufficient working capital to meet its obligations, and thus leads to legal issues, liquidation of assets, and potential bankruptcy.

The main goal of working capital management is to maintain a reasonable balance between the current assets and liabilities of a company. An efficient and effective working capital management system allows companies to achieve and increase their profits. Management of working capital means management of inventories, cash, receivables, and payables. Key performance indicators, such as the working capital ratio, the inventory turnover ratio and the average collection ratio, are often used to identify areas to be focused to preserve liquidity and profitability.

2.2.3. Result of Improper Working Capital Management

Working capital is vital to the success of company. But one thing to keep in mind is that it should be kept at the desired level. If working capital management is not done properly it may lead to excessive or inadequate working capital. Both excessive and inadequate levels can cause serious problems for the organization. Excessive working capital is the absence of profit from sleeping funds. The following are some of the problems a company faces when working capital is excessive.

- It results in unnecessary inventory accumulation.
- This leads to an imbalance between liquidity and profitability.
- It is a reflection of a defective credit policy.
- This leads to complacency management which becomes management inefficiency.

Unlike excess working capital, insufficient working capital affects the profitability and liquidity of the company. Here are some problems that businesses face when there is inadequate working capital.

- Affects the company's growth and expansion.
- The company may not be able to utilize production facilities.
- A business cannot satisfy its short-term liabilities.
- A business may not accept cash discount facilities.
- It may not be able to utilize fixed assets efficiently, this results in low profitability.

2.3.3. PROFITABILITY

2.3.1. Introduction

Profitability refers to the company's ability to earn profit. It decides whether a business stays in the company. A profit is the income generated by a company after it pays out all expenses linked directly to the generation of revenues. These expenses include the costs of producing a product and all other costs associated with carrying out the activities of the business.

Every business enterprise is essentially a profit-earning organization. The company's income statement shows the profit made by the company during a period of accounting. The productivity and efficiency with which business activities are performed is reflected in its profitability. Poor operational performance may imply weak sales and therefore lead to low profitability. Yet for the different parties involved in financial analysis, the amount of profit has varying meaning and significance. The profitability of an enterprise is analysed in numerous ways and one among them is the use of profitability ratios. Compared to the amount of expenses it entails, the profitability ratio measures the business capacity to generate income.

2.3.2. Types of Profitability Ratios

The profitability ratio measures the usage of its assets by the company and regulates its investments to achieve an appropriate rate of return for the firm and value for shareholders. The various types of profitability ratios are as follows;

Gross Profit Margin

The gross profit margin is the ratio between gross profit and operating revenue i.e. net sales. The cost of production is measured in this ratio. It is estimated as

Gross Profit Margin = (Gross Profit / Net Sales) * 100

For financial management, the gross profit ratio plays a vital role. This is a valuable measure of the company's willingness to use its external source of funds efficiently. This is also an important tool to define the company's pricing policy. This ratio helps to decide whether the overall profit rate for the products is retained or not.

Net Profit Margin

The profit-to-net-sales is known as the net profit margin. In this, the profit is measured per sales rupee. The net profit after tax is divided by the net revenue

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during the period. Net Profit Margin = (Net Profit / Net Sales) * 100

The word "net profit after interest and tax but before dividend" applies to this definition. Net profit ratio is an indicator of the company's success and profitability. This is very useful to proprietors as it measure the overall profitability. Higher the ratio, the operational efficiency of the concern will be better.

Operating Margin

The operating margin shows you how much production cost of the product for sales decreases your profit that includes general, employee, and administrative costs. Net operating margin is generally referred by the expression EBIT.

Operating Margin = (Operating Profit / Net sales) * 100

Return on Assets

When profitability can be measured by the ratio of net profit and total assets it is known as return on total assets. Return on Assets (ROA) tests how the company uses its assets to generate revenues effectively and efficiently.

Return on Assets = (Net profit / Total assets) * 100

Here the word "Net Profit" is the "Net profit before interest, tax and dividend".

Return on Equity

This ratio shows the rate of profit on shareholder's equity. Return on equity measures how much a company generate from the investments made by its shareholders. Owners are more interested with this ratio since it indicates the success of the company in generating earnings on their behalf. The higher the ratio, the better the owners like it. Return on Equity = (Net Profit / Shareholders' Equity) * 100

Net profit here is the "Net profit after interest, tax and preference dividend".

Return on Capital Employed

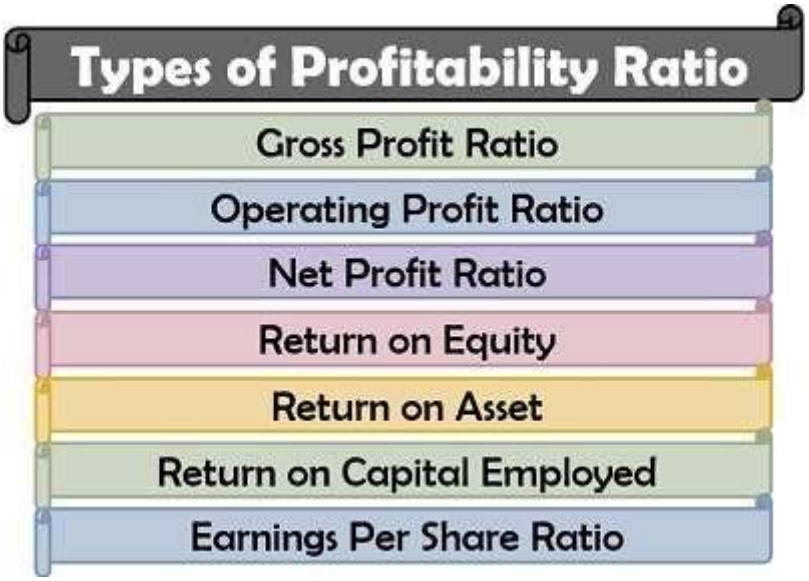
A satisfactory return on the capital invested is the principal objective of investing in any company. Return on capital employed is a good measure to compare profitability based on the amount of the capital it uses. It demonstrates the return on capital invested in the business and the productivity of the whole organization can be shown. It is regarded as one of the essential ratios of profitability and is frequently used by investors during searching for suitable investment candidates.

Return on Capital Employed = (EBIT / Capital Employed) * 100

Earnings per Share (EPS)

This ratio helps to determine a company's profitability from the shareholder's perspective. It estimates the profit available to the equity shareholders per share. It indicates how much money a company earns for its shares. It is a widely used measure for corporate profits. A comparison of EPS of various companies helps to determine whether or not the equity share capital has been utilized effectively.

Earnings per Share = Net Income / Outstanding Shares



2.3.3. Limitations of Profitability Ratios

Ratios such as net profit margin do not reflect a metric that can be used for comparing profitability between different industries. In contrast with any other organisation, for example, a bakery has a lower net profit margin.

Investors and stakeholders may be misled as the investment value and profit can easily be manipulated to improve or lower the profitability ratios according to their needs.

The ratios depend on multiple calculations made under the value of each financial statements. It would be costly to investors in the future as a material error or fraud in a single element would lead to a miscalculated ratio.

The ratios may also be high or good because of the chance factor, and therefore should not be

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consistently followed. In order to confirm with the analysis, the context behind ratios should be checked.

2.3.5. Factors Affecting Profitability of a Firm

The nature of profitability is the difference between sales and costs of a product, in which income is dependent on the price and quantity of the goods sold.

Degree of Competition

Company is said to have monopoly power when it has little competition. The demand for these companies will therefore be more inelastic. It allows the company to increase its income through price increase. A monopoly power with a restricted competition is established by any successful corporation. However, government regulation can in some cases prevent the abuse of power by monopolies. If the market is highly competitive profit will be lower. The explanation is that customers tend to purchase from the cheapest firms.

The idea of contestability is another important aspect. Market contestability implies how possible it is for a new company to join the market. The company will always face a competitive threat when the access is easy. It reduces the profit even if the competition is just hit and run.

Strength of Demand

If the product is trendy it means that those products will have high demand. During the era of increasing consumer demand and growth for mobiles, such companies were profitable. For products with a diminishing demand, the company will have low profit. Many firms, like Apple, have gained high brand loyalty, and many of Apple's new products are demanded by consumers. Nevertheless, the revenue for mobile phone firms has declined in recent years as high profits have fostered oversupply, ignoring rising competition.

The state of the economy.

Economic growth would lead to higher demand for most products, particularly those with high-income demand elasticity. For instance, luxury products manufacturers are benefiting from economic growth but struggle in periods of recession.

Advertising

Demand will increase when the advertising campaign is successful and thus make the product more asymmetrical. However, the costs of advertising should be covered with the increased revenue. Word of mouth is sometimes the best method. For instance, there isn't much advertising on YouTube.

Substitutes

If there are ample alternatives or if the alternatives are costly, the demand for the commodity is higher. Complementary goods are currently important for the company's profits.

Relative costs

The cost rise would lower earnings. Labour, raw materials, and rental costs may be included in this. Devaluation of the exchange rate, for example, would increase import costs, thereby increasing costs for companies that import raw materials. Alternatively, the company's profit would increase if it can increase productivity by improving the technology. The exchange rate would be relevant if a business imports raw materials. Imports are more costly by depreciation. However, any exchange rate depreciation is good for more competitive exporters.

Economies of scale

To make good use of economies of scale and produce at a minimum efficient scale, a business having fixed costs must produce a large number otherwise the average cost will become too high. In the steel industry, for instance, we saw a lot of standardization when small and medium-sized enterprises lose competitiveness and merged with other firms.

Dynamically efficient

When a company does not operate dynamically, overtime costs increase. State monopolies for instance, typically had little incentive to cut costs, for example by getting rid of excess labour. They did not benefit much before privatization, but they were made more competitive by business operations and opportunities.

Price discrimination

It will be more efficient if the company can differentiate on price. It involves charging different prices for the same item so that a company can charge a higher price for those inelastic products. For airline companies this is critical.

Management

For the long-term growth and competitiveness of businesses, good management is essential. Poor management, for example, with benefiting from client service and employee turnover, may lead to a reduction in employee morale. Corporations can have incorrect expansion plans, too. Many banks, for example, took sub-prime risk mortgages, which contributed to major losses. Tesco had a growth into an unrelated business like a garden centre. The organization therefore has over-spread its core market and lost sight of it.

Objectives of firms

Not every company maximizes profit. Some companies that attempt to increase market share and profit to gain market share is sacrificed. It is the Walmart approach for starters and Amazon to a certain degree.

Exchange rate

Depreciation of currencies increases profitability if a company depends on exports. Exports to international buyers were cheaper due to a decrease in the exchange rate. The client may then either spend more or prefer a greater profit margin. Depreciation raises production costs as the company imports raw materials.

3. DISCUSSION

This research aims to determine the effects of profitability of the company by working capital management focusing on one of the top company from five different sectors for the last five years (i.e., five companies for five years). The companies selected are:

1. Reliance Industries Ltd.
2. Indian Oil Corporation Ltd.

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3. Tata Motors Ltd.
4. Tata Steel Ltd.
5. Rajesh Exports Ltd.

The data has been collected for five years from 2015-2019 from the site money control. The data collected has undergone various calculations to find the Average collection period (ACP), Average payment period (APP), Inventory turnover in days (ITD), Cash conversion cycle (CCC), Return on Asset (ROA), Quick ratio (QR), and Current ratio (CR). As a profitability measure, return on assets (ROA) is used and a liquidity measurement is done by Quick Ration (QR) and Current Ratio (CR). In order to find the relations between various components of working capital management and productivity, the quantitative approach correlation analysis method is used.

Correlation analysis is a statistical method used to determine the intensity of the association between two quantifications. A correlation factor higher than zero implies a positive relationship, and a value below zero indicates that the relationship is negative and a value of zero does not indicate any comparison between the two variables being compared. The graphical representation of correlation can be shown using a scatter plot. A scatter plot is a diagram used to trace two variables of the data points. If the trend line is moving upward it means that there is a positive correlation on the other hand if it is downward it indicates a negative correlation. There exists no correlation if the trend line is a straight line.

3.1. Relationship between Average Collection Period (ACP) and Profitability

3.1.1. Reliance Industries Ltd.

	2019	2018	2017	2016	2015
ACP	13.96	10.90	6.99	6.09	6.92
ROA	3.95	4.42	4.20	4.97	4.67

Table 1

	ACP	*ROA*
ACP	1	
ROA	-0.750	1

Table 2 – Correlation

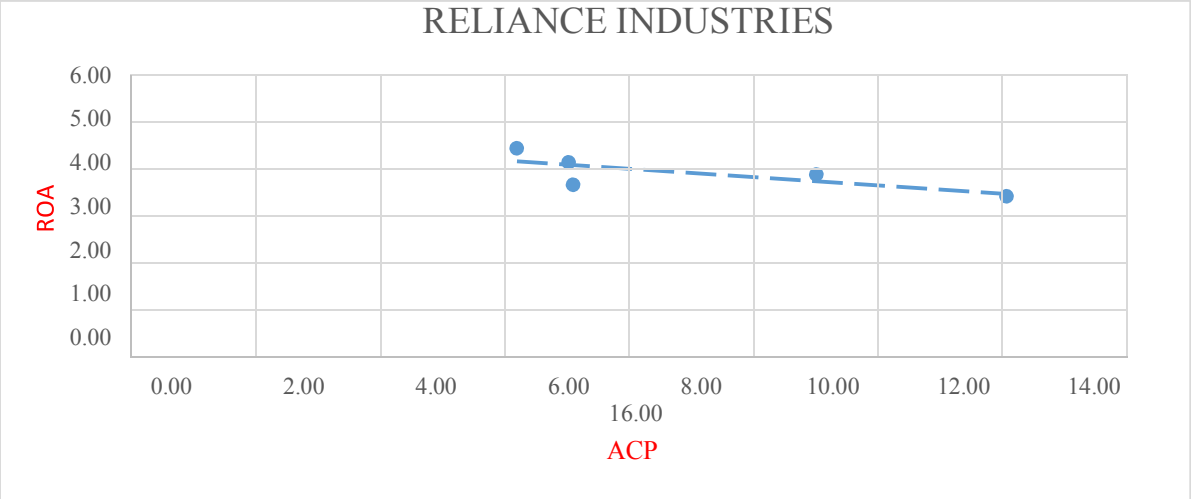

Figure 1

Table 1 shows the ACP and ROA of Reliance Industries Ltd. for the year 2015 – 2019. Table 2 and Figure 1 shows the correlation analysis of ACP and ROA. As the value in Table 2 is -0.750 which is less than 0 and the Figure 1 has a downward sloping trend line the relationship between ACP and ROA of Reliance Industries Ltd is negative.

3.1.2. Indian Oil Corporation Ltd.

	2019	2018	2017	2016	2015
ACP	7.90	7.01	6.69	6.87	7.86
ROA	5.18	7.50	7.26	5.19	2.10

Table 3

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Table 4 – Correlation

	ACP	*ROA*
ACP	1	
ROA	-0.73	1

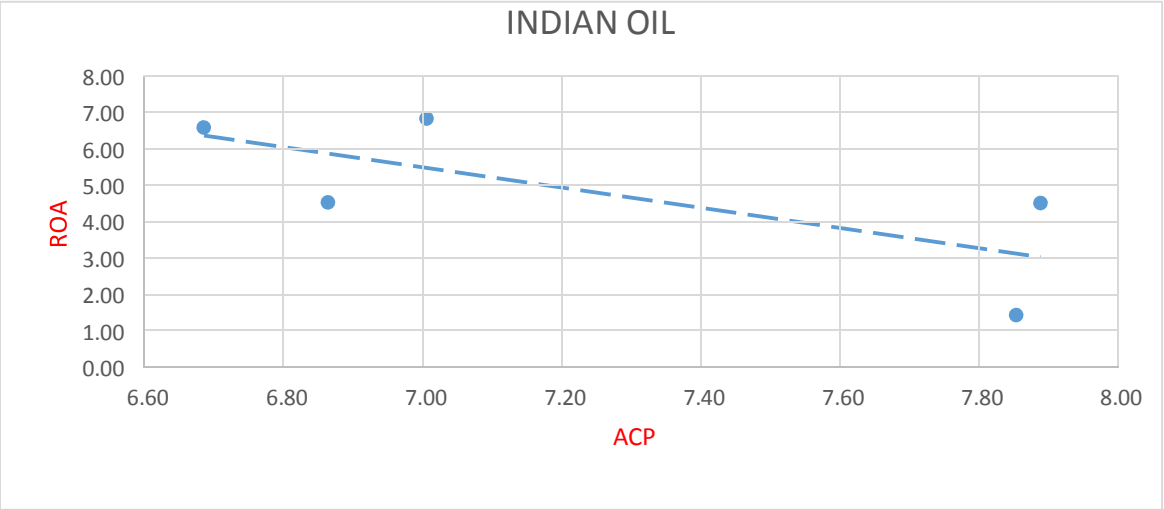

Figure 2

Table 3 shows the ACP and ROA of Indian Oil Corporation Ltd. for the year 2015 – 2019. Table 4 and Figure 2 shows the correlation analysis of ACP and ROA. It depicts a negative relationship between ACP and ROA of Indian Oil Corporation Ltd. because the value in Table 4 is -0.73 which is less than 0 and the Figure 2 has a downward sloping trend line.

3.1.3. Tata Motors Ltd.

	2019	**2018**	**2017**	**2016**	**2015**
ACP	28.85	31.02	23.26	17.41	15.99
ROA	-9.38	2.71	2.72	4.33	5.86

Table 5

	ACP	ROA
ACP	1	
ROA	-0.613	1

Table 6 – Correlation

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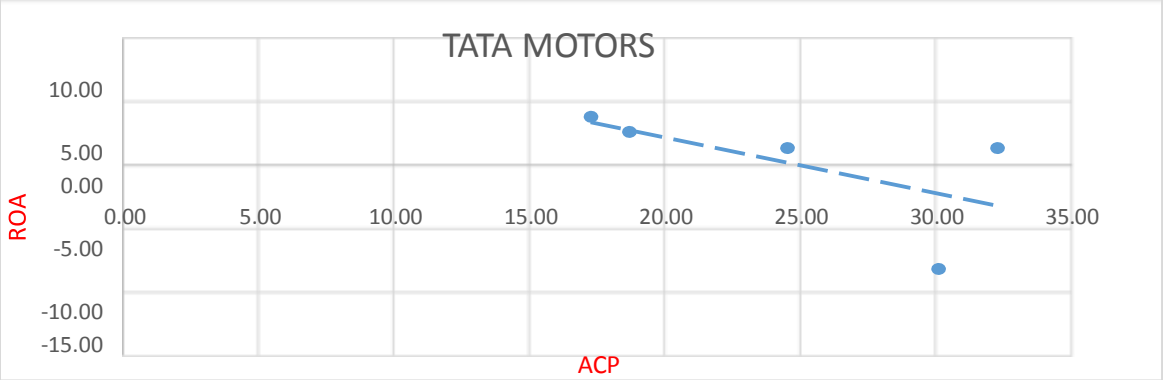

Figure 3

Table 5 shows the ACP and ROA of Tata Motors Ltd. for the year 2015 – 2019. Table 6 and Figure 3 shows the correlation analysis of ACP and ROA. As the value in Table 6 is -0.613 which is less than 0 and Figure 3 has a downward sloping trend line the relationship between ACP and ROA of Tata Motors Ltd. is negative.

3.1.4. Tata Steel Ltd.

	2019	2018	2017	2016	2015
ACP	28.58	33.25	37.00	43.82	37.38
ROA	4.37	6.40	-2.45	-0.22	-2.47

Table 7

	ACP	*ROA*
ACP	1	
ROA	-0.631	1

Table 8 – Correlation

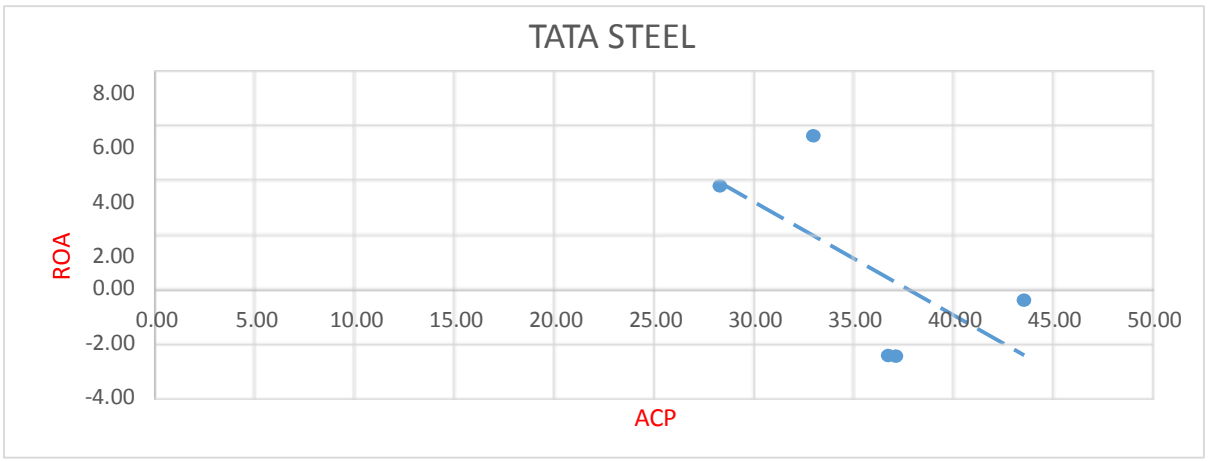

Figure 4

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Table 7 shows the ACP and ROA of Tata Steel Ltd. for the year 2015 – 2019. Table 8 and Figure 4 shows the correlation analysis of ACP and ROA. As far as the value in Table 8 is - 0.631 which is less than 0 and Figure 4 has a downward sloping trend line the relationship between ACP and ROA of Tata Steel Ltd. is negative.

3.1.5. Rajesh Exports Ltd.

	2019	2018	2017	2016	2015
ACP	10.53	8.76	7.47	8.70	19.55
ROA	4.48	5.38	5.15	5.10	4.07

Table 9

	ACP	*ROA*
ACP	1	
ROA	-0.876	1

Table 10 – Correlation

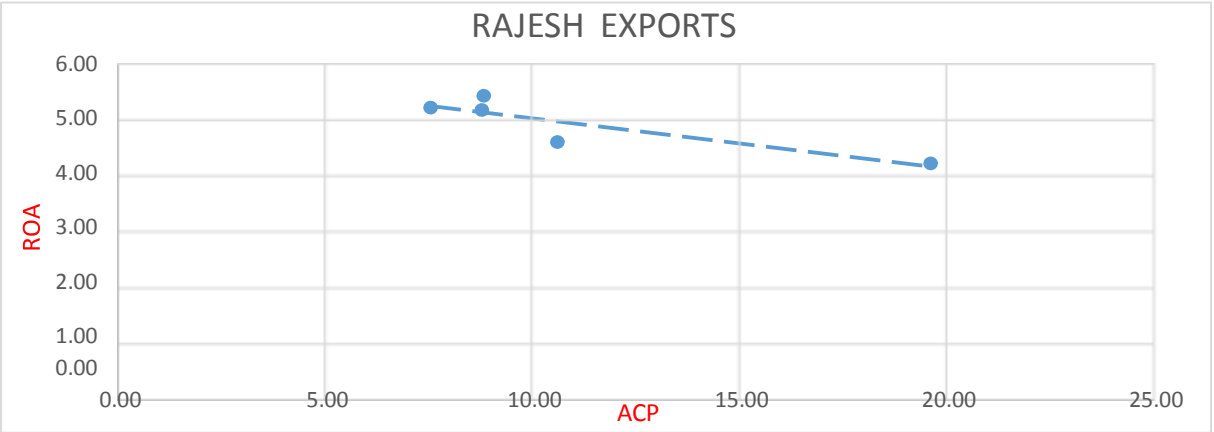

Figure 5

Table 9 shows the ACP and ROA of Rajesh Exports Ltd. for the year 2015 – 2019. Table 10 and Figure 5 shows the correlation analysis of ACP and ROA. As we can see the value in Table 10 is -0.876 which is less than 0 and Figure 5 has a downward sloping trend line, the relationship between ACP and ROA of Rajesh Exports Ltd is negative.

Since in all the five cases it shows a negative relationship we can infer that the average collection time has a negative relationship to profitability. The negative link between average collection period and profitability indicates that a reduction in the number of day's accounts receivable by 1 day will leads to an increase in profitability. This also suggests that an increase in the number of days a company receives sales payment negatively impacts its profitability.

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3.2. Relationship between Average Payment Period (APP) and Profitability

3.2.1. Reliance Industries Ltd.

	2019	2018	2017	2016	2015
APP	129.34	161.39	142.69	123.65	76.08
ROA	3.95	4.42	4.20	4.97	4.67

Table 11

	APP	*ROA*
APP	1	
ROA	-0.381	1

Table 12 – Correlation

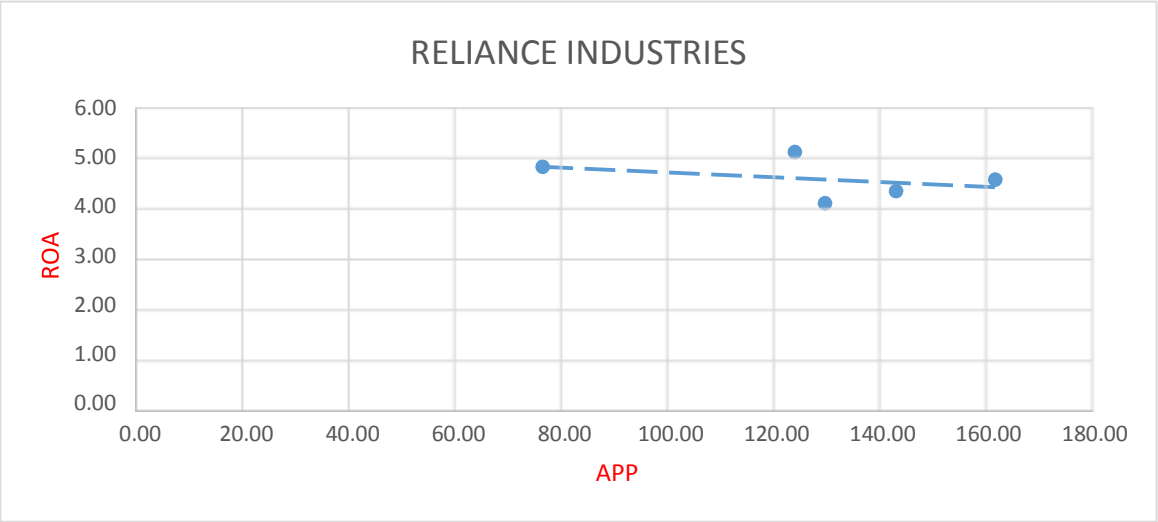

Figure 6

Table 11 shows the APP and ROA of Reliance Industries Ltd. for the year 2015 – 2019. Table 12 and Figure 6 shows the correlation analysis of APP and ROA. Since the value in Table 12 is -0.381 which is less than 0 and Figure 6 has a downward sloping trend line, it depicts a negative relationship between APP and ROA of Reliance Industries Ltd.

3.2.2. Indian Oil Corporation Ltd.

	2019	2018	2017	2016	2015
APP	46.42	57.10	56.34	62.20	53.13
ROA	5.18	7.50	7.26	5.19	2.10

Table 13

	APP	*ROA*
APP	1	
ROA	0.266	1

Table 14 - Correlation

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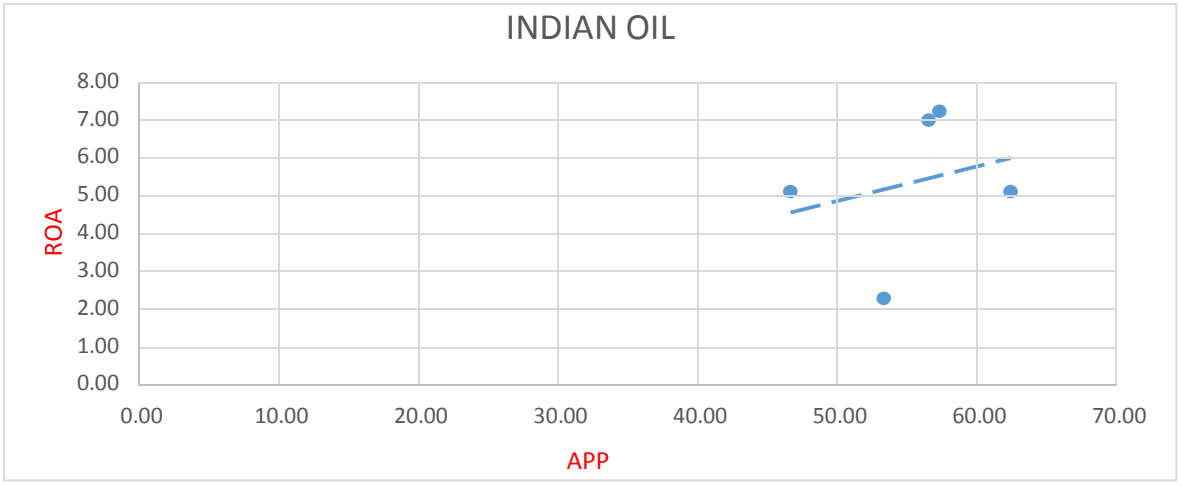

Figure 7

Table 13 shows the APP and ROA of Indian Oil Corporation Ltd. for the year 2015 – 2019. Table 14 and Figure 7 shows the correlation analysis of APP and ROA. Since the value in Table 14 is 0.266 which is greater than 0 and Figure 7 has an upward sloping trend line, the relationship between APP and ROA of Indian Oil Corporation Ltd is positive.

3.2.3. Tata Motors Ltd.

	2019	2018	2017	2016	2015
APP	138.48	134.89	129.24	133.87	136.99
ROA	-9.38	2.71	2.72	4.33	5.86

Table 15

	APP	*ROA*
APP	1	
ROA	-0.464	1

Table 16 – Correlation

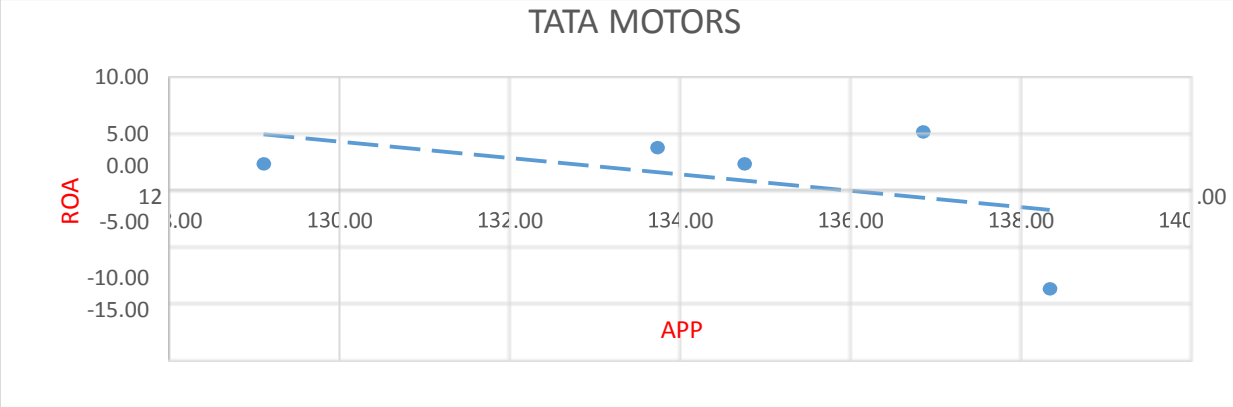

Figure 8

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Table 15 shows the APP and ROA of Tata Motors Ltd. for the year 2015 – 2019. Table 16 and Figure 8 shows the correlation analysis of APP and ROA. As we can see the value in Table 16 is -0.464 which is less than 0 and Figure 8 has a downward sloping trend line, the relationship between APP and ROA of Tata Motors Ltd is negative.

3.2.4. Tata Steel Ltd.

	2019	2018	2017	2016	2015
APP	141.58	172.68	209.03	245.02	188.43
ROA	4.37	6.40	-2.45	-0.22	-2.47

Table 17

	APP	*ROA*
APP	1	
ROA	-0.611	1

Table 18 – Correlation

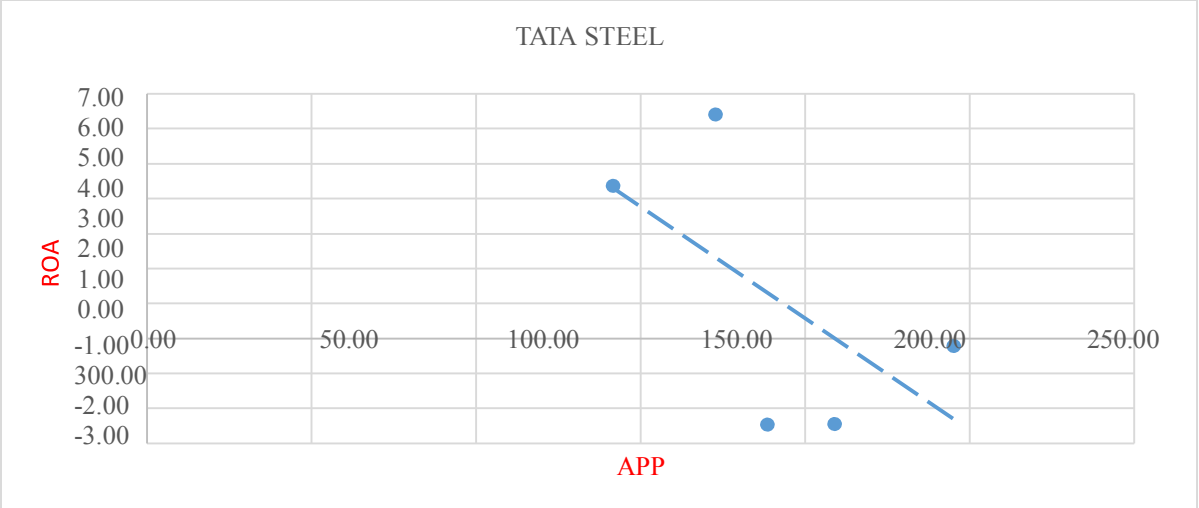

Figure 9

Table 17 shows the APP and ROA of Tata Steel Ltd. for the year 2015 – 2019. Table 18 and Figure 9 shows the correlation analysis of APP and ROA. Since the value in Table 18 is -0.611 which is less than 0 and Figure 9 has a downward sloping trend line the relationship between APP and ROA of Tata Steel Ltd. is negative.

3.2.5. Rajesh Exports Ltd.

	2019	2018	2017	2016	2015
APP	21.71	19.01	17.49	21.93	52.06
ROA	4.48	5.38	5.15	5.10	4.07

Table 19

	APP	*ROA*
APP	1	
ROA	-0.828	1

Table 20 - Correlation

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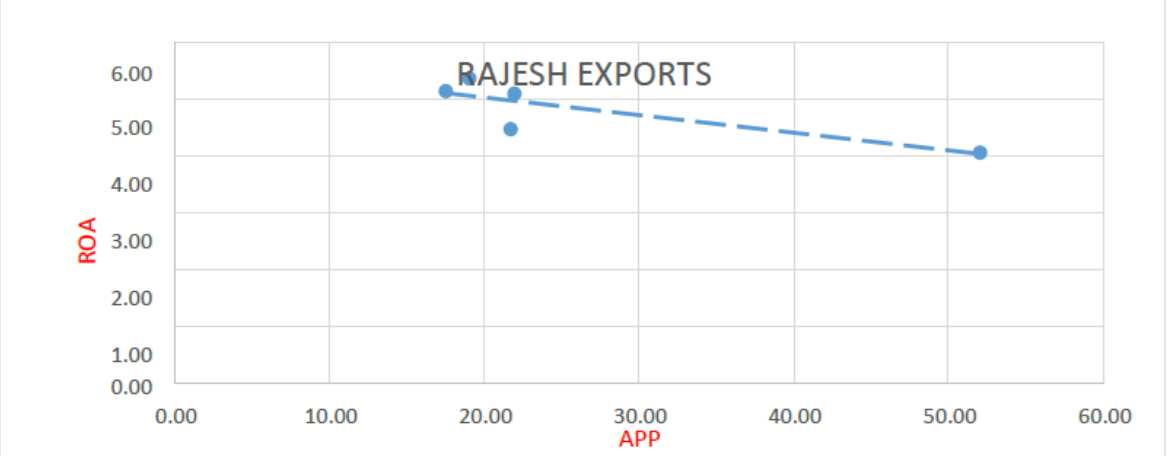

Figure 10

Table 19 shows the APP and ROA of Rajesh Exports Ltd. for the year 2015 – 2019. Table 20 and Figure 10 shows the correlation analysis of APP and ROA. It depicts the relationship between APP and ROA of Rajesh Exports Ltd. is negative because as we can see the value in Table 20 is -0.828 which is less than 0 and the Figure 10 has a downward sloping trend line.

From the above analysis as the majority of the cases shows a negative relationship between APP and ROA we can conclude that the relationship between average payment period and profitability is negative. We can conclude that lower the average payment period, the solvency of the enterprise is better, and it takes less working capital of other businesses and thereby increases the reputation of the firm. This relationship also shows that the firms which wait longer to pay their bills will be less profitable.

3.3. Relationship between Inventory Turnover in Days (ITD) and Profitability

3.3.1. Reliance Industries Ltd.

	2019	2018	2017	2016	2015
ITD	77.18	96.58	99.48	103.02	69.11
ROA	3.95	4.42	4.20	4.97	4.67

Table 21

Table 22 – Correlation

	ITD	*ROA*
ITD	1	
ROA	0.247	1

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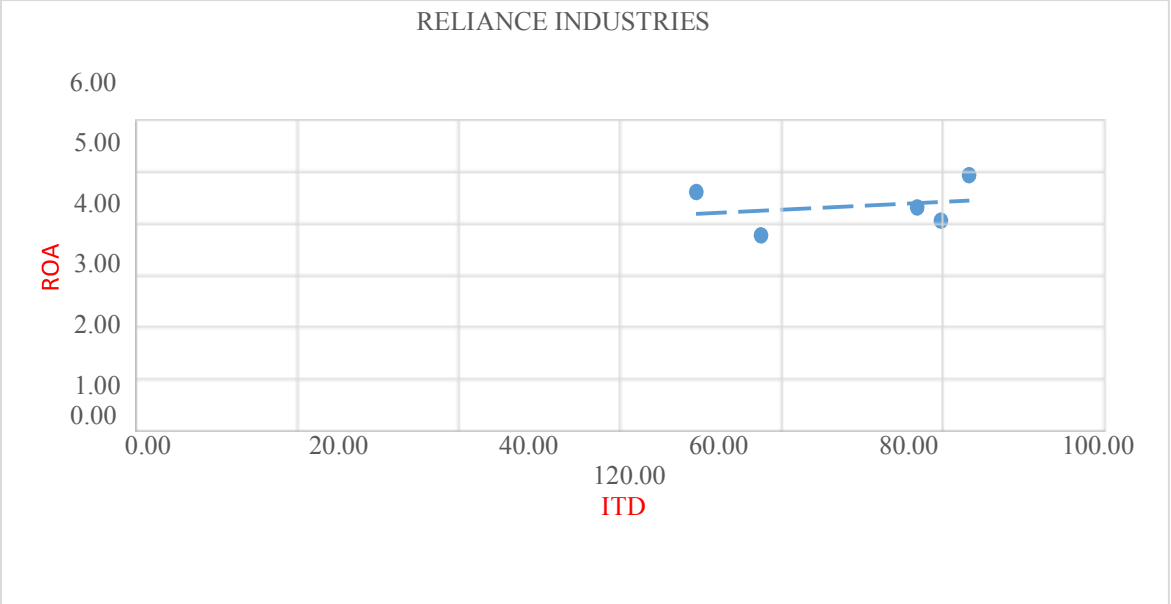

Figure 11

Table 21 shows the ITD and ROA of Reliance Industries Ltd. for the year 2015 – 2019. Table 22 and Figure 11 shows the correlation analysis of ITD and ROA. Since the value in Table 22 is 0.247 which is greater than 0 and Figure 11 has an upward sloping trend line, the relationship between ITD and ROA of Reliance Industries Ltd. is positive

3.3.2. Indian Oil Corporation Ltd.

	2019	2018	2017	2016	2015
ITD	87.95	114.50	109.56	102.46	89.80
ROA	5.18	7.50	7.26	5.19	2.10

Table 23

	ITD	*ROA*
ITD	1	
ROA	0.821	1

Table 24 – Correlation

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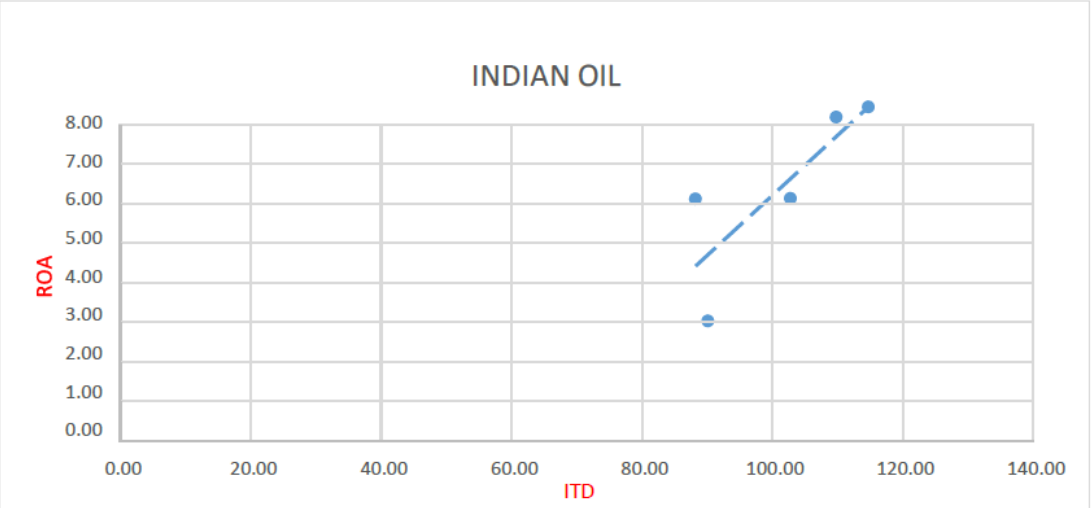

Figure 12

Table 23 shows the ITD and ROA of Indian Oil Corporation Ltd. for the year 2015 – 2019. Table 24 and Figure 12 shows the correlation analysis of ITD and ROA. The relationship between ITD and ROA of Indian Oil Corporation Ltd. is positive because the value in Table 24 is 0.821 which is greater than 0 and the Figure 12 has an upward sloping trend line.

3.3.3. Tata Motors Ltd.

	2019	2018	2017	2016	2015
ITD	79.95	80.29	75.95	72.10	67.52
ROA	-9.38	2.71	2.72	4.33	5.86

Table 25

	ITD	*ROA*
ITD	1	
ROA	-0.659	1

Table 26 – Correlation

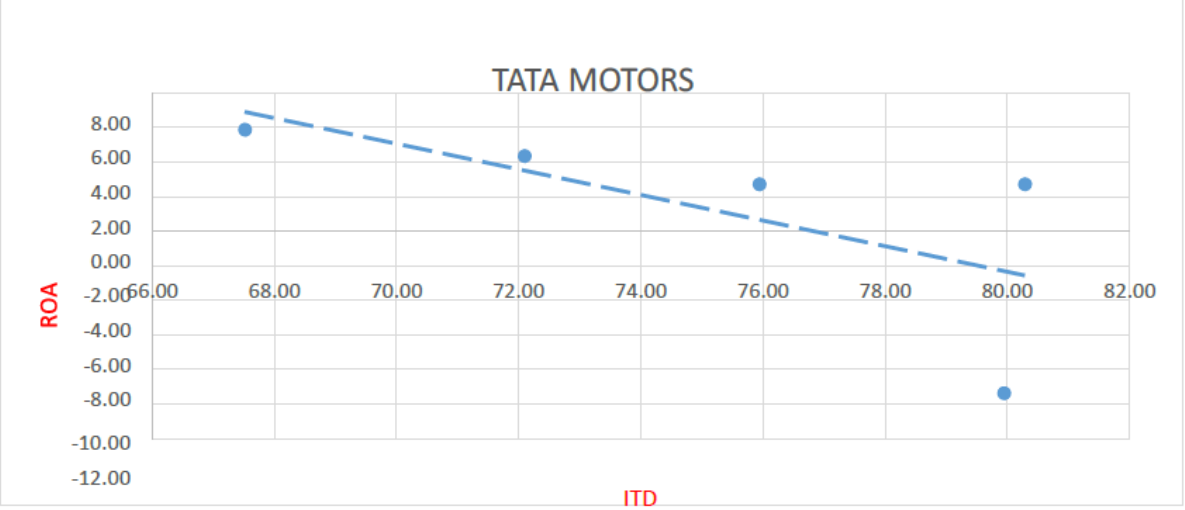

Figure 13

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Table 25 shows the ITD and ROA of Tata Motors Ltd. for the year 2015 – 2019. Table 26 and Figure 13 shows the correlation analysis of ITD and ROA. Since the value in Table 26 is -0.659 which is less than 0 and Figure 13 has a downward sloping trend line the relationship between ITD and ROA of Tata Motors Ltd. is negative.

3.3.4. Tata Steel Ltd.

	2019	2018	2017	2016	2015
ITD	201.58	235.34	252.30	293.16	232.90
ROA	4.37	6.40	-2.45	-0.22	-2.47

Table 27

	ITD	*ROA*
ITD	1	
ROA	-0.440	1

Table 28 – Correlation

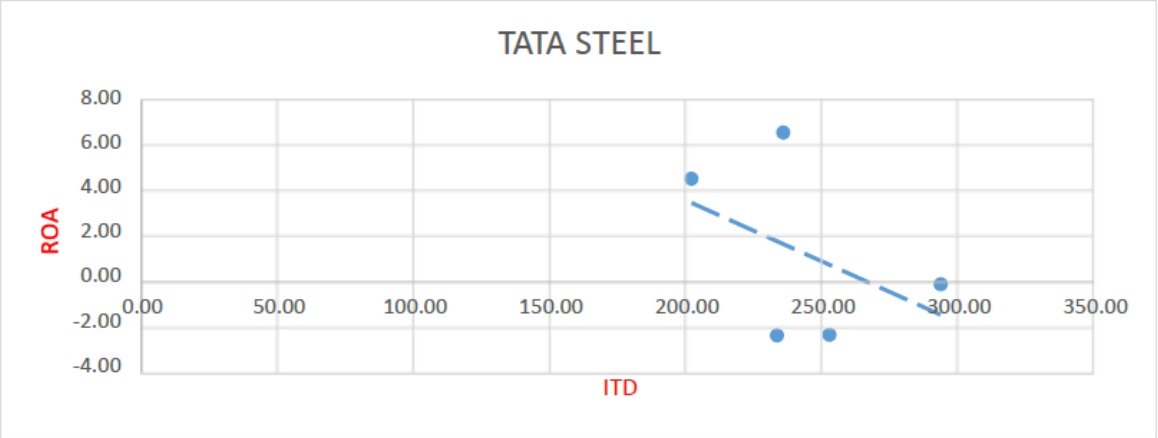

Figure 14

Table 27 shows the ITD and ROA of Tata Steel Ltd. for the year 2015 – 2019. Table 28 and Figure 14 shows the correlation analysis of ITD and ROA. Since the value in Table 28 is -0.440 which is less than 0 and Figure 14 has a downward sloping trend line the relationship between ITD and ROA of Tata Steel Ltd. is negative.

3.3.5. Rajesh Exports Ltd.

	2019	2018	2017	2016	2015
ITD	5.95	2.84	1.64	1.75	4.25
ROA	4.48	5.38	5.15	5.10	4.07

Table 29

	ITD	*ROA*
ITD	1	
ROA	-0.723	1

Table 30 - Correlation

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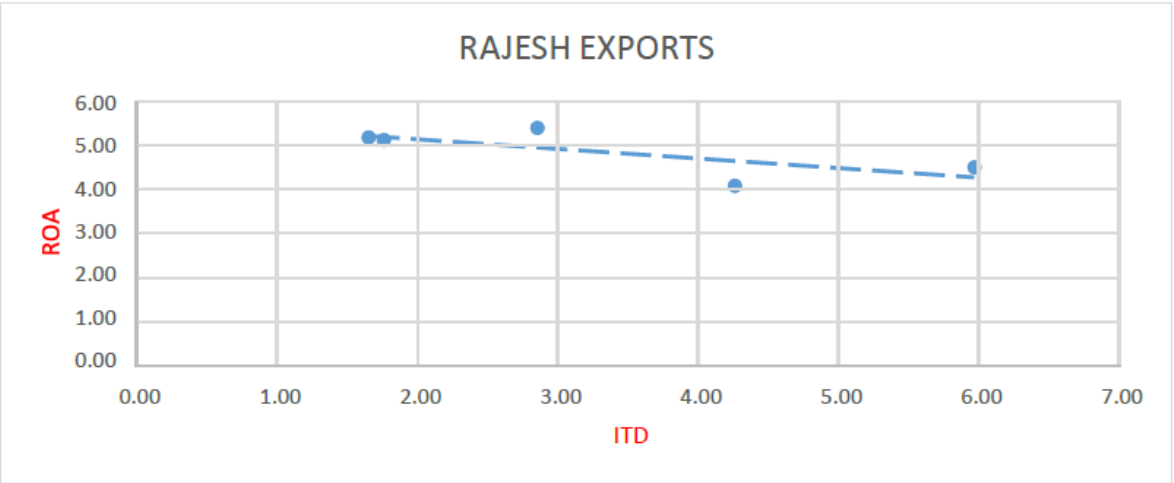

Figure 15

Table 29 shows the ITD and ROA of Rajesh Exports Ltd. for the year 2015 – 2019. Table 30 and Figure 15 shows the correlation analysis of ITD and ROA. The relationship between ITD and ROA of Rajesh Exports Ltd. is negative because as we can see the value in Table 30 is -0.723 which is less than 0 and the Figure 15 has a downward sloping trend line.

In the above analysis, the first two cases depicts a positive relationship between ITD and ROA but the remaining three show a negative relationship between the two. Therefore we can conclude that the relationship between inventory turnover in days and profitability is negative as the majority results also show the same. This implies that, if the average time required for materials to be converted into finished goods is reduced and those goods then sold, profitabilityis increased. This finding could generally be interpreted as taking longer to sell the inventory, adversely affecting profitability i.e. decline in the profitability.

4. CONCLUSION

The management of working capital is one of a company's most significant financial decisions. A company needs to adequately track its working capital and maintain an acceptable balance. To run a business smoothly, regardless of size, there should be an appropriate amount of working capital.

This study seeks to determine the impact on profitability by working capital management and the research also reveals that every aspect of working capital management affect the profitability of a firm either positively or negatively. So it can be concluded that the working capital management and profitability are significantly linked. Form the research, we can also infer that it is very crucial for a business to maintain an efficient working capital level.

Corporate management may generate value for the shareholders by reducing the number of accounts receivables days. This is because the profitability of the business rises as the ACP decline. The ACP also raises bad debt rates and significantly reduces profitability in the longer term. The analysis also indicates that profits grow with an increase in APP, so firms should also take the initiative to reduce the time to pay their creditors which in turn increases the profitability.

Management can also produce value for its shareholders by reducing stock to an appropriate level, as the findings show that profitability improves as the ITD decreases. As the ITD increases, the costs for storage are often raised in order to maintain the available stock. In order to achieve the firm's overall performance, companies can also increase the liquidity level, as shown by a positive linkage between profitability and liquidity.

By increasing its cash conversion cycle, companies can achieve a competitive advantages by using their capital efficiently and effectively. This is supposed to increase the company's profitability. Management of working capital includes management and funding of current assets and management of current liabilities. In conclusion, it improves its profitability if these companies control their cash, account receivables and stocks properly.

Creating a reasonable working capital policy will enable businesses to increase profitability and create value for investors. All in all, the results show that investing in the process of working capital is essential for a company's profitability. Each company should therefore attach greater importance to management of working capital in its financial planning process. By doing so the firm can generate more income and employment.

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