A STUDY ON EFFECTIVENESS OF CASH MANAGEMENT AT ALIND SWITCH GEAR LIMITED, MANNAR

PROJECT REPORT

Submitted to Mahatma Gandhi University in partial fulfillment of the requirements for the award of the degree of

MASTER OF BUSINESS ADMINISTRATION

Submitted By

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Under the guidance of

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(Faculty Guide)

Accredited by NAAC with 'A' Grade

DEPARTMENT OF MANAGEMENT STUDIES

MAR ATHANASIOS COLLEGE FOR ADVANCED STUDIES TIRUVALLA

2021

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CERTIFICATE

This is to certify that the project report entitled **"A STUDY ON EFFECTIVENESS OF CASH MANAGEMENT AT ALIND SWITCH GEAR LIMITED, MANNAR "** is a bonafide report of the project work undertaken by **RIMCY M YOHANNAN** fourth semester MBA student of our college during a period of 8 weeks commencing from 1st April to 31th May,2021.

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SWITCHGEAR DIVISION, KUTTAMPEROOR P.O., MANNAR, 689 623, ALAPPUZHA DISTRICT, KERALA, INDIA

SG: PO: CT-31/7960 Date: 22.07.2021

CERTIFICATE

This is to certify that Ms.Rimcy M.Yohannan MBA 4th semester student of Mar Athanasious College for Advanced Studies, Thiruvalla had done Project Work in our company from 01.04.2021 to 30.05.2021.

We wish all success in her future assignments.

For ALUMINIUM INDUSTRIES LTD

General Manager
(HR,IR&Administration)

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ISO 9001 - 2015 ORGANISATION
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CERTIFICATE No. 6000698.6

DECLARATION

I hereby declare that this project report entitled **"A STUDY ON EFFECTIVENESS OF CASH MANAGEMENT AT ALIND SWITCH GEAR LIMITED, MANNAR "** is a bonafide report of the study undertaken by me, under the guidance of **Mr. Jibumon K G** Department of Management Studies, MACFAST, Thiruvalla.

I also declare that this project report has not been submitted to any other University or Institute for the award of any degree or diploma.

Place : Thiruvalla

Date : 30/05/2021 RIMCY M YOHANNAN

ACKNOWLEDGEMENTS

"Gratitude can never be adequately expressed in words but this is only the deep perception which makes the word flow from ones inner heart".

I thank the Almighty God, my strength and guide, for his blessings and giving me the strength and courage to complete this Summer Internship and Industry Analysis successfully. I wish to express my deep sense of gratitude to our beloved principal, **Rev. Dr. Fr. Cherian J Kottayil** of MACFAST College, for his blessings and inspiration.

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Behind every successful effort there always lies a contribution from numerous sources irrespective of their magnitude. So I take this opportunity to thank all the other people who have helped me.

RIMCY M YOHANNAN

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ABBREVIATIONS

AC: Alternating Current.

ALIND: Aluminium Industries Limited.

APDRP: Accelerated Power Development and Reform Programme.

ATC: Aggregate Technical and Commercial.

BIFR: Board of Industrial and Financial Reconstruction.

BOCB: Bulk Oil Breakers.

CAGR: Compound Annual Growth Rate.

CD: Certificate of Deposits.

CGE: Company General Electric.

DE: Debt to Equity.

DTC: Direct to Consumer.

EOQ: Economic Order Quality.

GAAP: Generally Accepted Accounting Priniciple.

GEC: General Electric Company.

GIS: Gas- Insulated Switchgears.

IOT: Interest of Things.

LV: Low Voltage.

MCB: Miniature Circuit Breakers.

MOCB: Minimum Oil Circuit Breakers

MV: Medium Voltage

CONTENTS

CHAPTER 1

INTRODUCTION

INTRODUCTION

Finance is the study of how investors allocate their assets over time under conditions of certainty and uncertainty. A key point of finance, which affects decision, is the time value of money, which states that a unit of currency today, is worth more than the same unit currency tomorrow. Finance aims to price the assets based on this risk level, and expected rate of return. In a business organization finance department is deals with financial activities.

Finance is the life blood of every business concern. It is an important function of any business, as finance is required to meet the various activities of it. Cash is the important current asset for the operations of the business. It is the basic input needed to kept the business running on a continuous basis.

In simple terms, cash management may be defined as management tool to ensure that sufficient cash is available to meet current and future liabilities. Cash management is the management of the cash balance of a concern is such a manner as to maximize the availability of cash not invested in fixed assets or inventories and to avoid the risk of insolvency.

In a business, anything done financially affect cash eventually. Cash movement is a business is two way traffic, inflow and outflow. Important aspect which is unique to cash management is time dimension associated with the movement of cash due to non-synchronicity of cash inflow and outflow.

The primary aim of cash management is to ensure that there should be enough cash availability when the needs arise not too much but never too little. Cash management is concerned with how a firm managers its cash levels and operations (cash collection and payments) cash investments and dis-investments and cash borrowings and lending. It is very essential for long run and short –run process.

In Aluminium Industries Limited (ALIND) their cash management was efficiently done. The cash management of past years was good.

Cash management is a broad term that refers to the collection, concentration, and disbursement of cash. It encompasses a company's level of liquidity. Its management of cash balance, and its short-term investment strategies. In some ways, managing cash flow is the most important job of business managers.

1.1 BACKGROUND OF THE STUDY

The term cash management refers to the management of cash resource in such a way that generally accepted business objectives could be achieved. In this context, the objectives of a firm can be unified as bringing about consistency between maximum possible profitability and liquidity of a firm. Cash management may be defined as the ability of a management in recognizing the problems related with cash which may come across in future course of action, finding appropriate solution to curb such problems if they arise, and finally delegating these solutions to the competent authority for carrying them out. The choice between liquidity and profitability creates a state of confusion. It is cash management that can provide solution to this dilemma. Cash management is a broad term that refers to the collection, concentration, and disbursement of cash. It encompasses a company's level of liquidity. Its management of cash balance, and its short-term investment strategies. Cash management may be regarded as an art that assists in establishing equilibrium its business objectives.

Cash management is concerned with minimizing unproductive cash balances, investing temporarily excess cash advantageously and to make the best possible arrangements for meeting planned and unexpected demands on the firm's cash." Cash Management must aim to reduce the required level of cash but minimize the risk of being unable to discharge claims against the company as they arise. All these aims and motives of cash management largely depend upon the efficient and effective functioning of cash management. The primary aim of cash management is to ensure that there should be enough cash availability when the needs arise not too much but never too little Cash management functions can be studied under five heads, namely, cash planning, managing cash flow, controlling cash flow, optimizing the cash level and investing idle cash.

1.2 STATEMENT OF THE PROBLEM

Aluminium Industries LTD (ALIND) is an Indian Non-Government Company which offers production and distribution of wide variety of switch gear products to all over India.The Company products are trusted by millions around the country. ALIND produces cables and conductors steel wires, wires wires working machinery high voltage switchgear and static relays for different users . They produce switch gear and transformers which are mainly consumed by Kerala State Electricity Board and Indian Railway. The products are utilized for the welfare of the Public. These products are not directly consumed by the public the study

was conducted to learn the organization structure and different department of organization. Hence the present study entitled **"A STUDY ON EFFECTIVENESS OF CASH MANAGEMENT AT ALIND SWITCH GEAR LIMITED, MANNAR "** for a period of two months commencing from 1st April 2021 to 31st May 2021.

1.3 RELEVANCE & SCOPE OF THE STUDY

RELEVANCE OF THE STUDY

The relevance of the study is that, this study focus on analysing the cash management with respect to operating performance, investing and financing activities of Aluminium Industries Ltd .Proper management of cash is necessary because the market is highly competitive.

SCOPE OF THE STUDY

- This study covers all the Revenues and Expenses in the organization to evaluate its performance.
- It conveys the role of finance department in terms of cash management.
- It takes into account the profit and loss and balance sheet of five consecutive years.

1.4 OBJECTIVES OF THE STUDY

- To know the sources and uses of Cash and cash equivalents of the company.
- To analyze the trend of cash flows during the reference period.
- To assess the impact of financing activities in the annual earnings of Alind Switch Gear Limited.
- To determine the operating performance of the Company.

CHAPTER 2

INDUSTRY PROFILE

2.1 BUSINESS PROCESS OF THE INDUSTRY

Switchgear industry is one of the major industries in India. Safety of people and installation of power system require a very high level of reliability for all the devices, but one of the most important of them is the circuit breaker is to allow the unimpeded flow of current in a normally operating power system and rapidly interrupt the current when a fault occurs. The expanding electrical network necessitated evolving discrimination protection system for protecting expensive equipment in the utility network as well as connected industries and installations during fault conditions. Switchgear industry is one of the major industries in India. Continuous power supply is secure requirement of any industry. Modern day world come to a standstill without power. This makes switchgear and control gear indispensable not only in transmission and distribution of power but anywhere there is need to access and control electricity. Safety of people and installation of power system require a very high reliability for all the device but one of the most important of them is the circuit breakers is to allow unimpeded flow of current in a normally operating power system and rapidly interrupted the current when a fault occurs.

Continues power supply is critical for any industry. As India is becoming an important global supplier of goods and services, uninterrupted power supply gains immense significance likewise the availability of good quality electric equipment's imperative. The Indian government has initiated the Accelerated Power Development And Reform Programme [APDRP] in order to minimize Aggregate Technical and Commercial [AT & C] losses at the distribution level, with the objective of improving the financial health of state electricity board, this provides a huge opportunity for the power sector with Low Voltage [LV] and Medium Voltage [MV] switchgear being no exception.

India's switchgear industry is fully developed and mature. Having clocked sustained growth in the past and continuous demand from power, industrial, infrastructure, commercial and residential sector is expected to stimulate growth for LV and MV switchgear. With the demand for both LV and MV switchgear expected to rise, the future seems to hold much potential for suppliers. Switchgear industry is one of the major industries in India. The switchgear industries offer auxiliary equipment like lightning – arresters, isolators, Instrument transformers etc for industrial customers. The industry offers industrial type switches, switch board for distribution and motor starter, also complete engineering turkey contracts for electrification of industrial complexes undertaken by the industry.

WORLD SCENARIO

Switchgear is a combination of device designed to control, regulate, meter and protection electric generation, transmission and distribution equipment and electric power control system. The global market for switchgear is anticipated to do well in the coming times as demand is likely to be driven by medium and high voltage types of switchgear. Revenues in the switchgear market are closely tied with the demand for transformers, there for any increase in demand for transformers will lead to a rise in demand for switchgear and vice versa.

The global gas insulated switchgear market is expected to show impressive growth in the future. The market for switchgear will continue to evolve globally, led mainly by escalating demand for renewable sources of energy, growth in construction and industrial sectors specially transmission distribution systems. Although environmental regulation offer scope for expansion, volatile oil prices, rising raw material prices and restricted flow of investment in the electricity sector act as stumbling blocks.

Rising investment in alternative sources of energy is expected to contribute to the growth of medium voltage and low voltage switchgears used to switching and general protection. Moreover, the application area will also trigger demand for Miniature Circuit Breakers (MCB) and Moulded Case Circuit Breaker (MCCB).

Against a break drop of tough economic climate, corporate success will critically hinge upon the ability to research and develop new innovative products at competitive prices and validate new application for existing products to distinguish themselves from that of competitors. Several technologies development such as arc-resistant technology and magnetic actuation have been undertaken by various Original Equipment Manufacturers (OEMs) focusing on enhancing the reliability and efficiency of switchgear equipment. Growth in switchgear will also be sustained by government directive older redundant system to achieve operational safety, and security in industrial establishment.

Based on end user, the transmission & distribution utilities segment is projected to grow at the fastest rate. This is due to the increasing investments in sub-stations automation, modernization of electric, grid and smart utilities (smart grids and smart meters). In 2017, Blackstone Group LP declared an investment of USD 100 billion toward the refurbishment of

aging infrastructure across the US. The investment is backed by the Saudi Arabia Public Investment Fund under the strategic and policy Forum.

Medium voltage switchgear market segment dominates the world switchgear market. Rapid growth in industrialization of small and medium scales in developing countries like China, India and Japan is expected to propel demand for medium voltage switchgear market. For instance, in 2016, Ever Source Energy declared an investment of about USD 900 million towards refurbishment of transmission networks across the U.S power is usually produced at medium-voltage switchgears used also rise in generation.

Asia-Pacific market is anticipated to dominate the global market during the forecast period. As such, governments of India and China have introduced various initiatives to improve grid connectivity in remote locations. The presents of a large number of companies, has introduce power is usually produced at a medium-voltage level and is then stepped up to higher voltage for transportation over longer distance. As the number of generation units increases, the number of medium competitive pricing pressure in the market. Europe and North America markets are expected to contribute significant amount of market share during forecast period due to various factors like need for grid modernization, replacement of old installations and renewable power generation.

The key players in global Switchgear market are ABB Ltd, Alstom Grid, GE, BHEL, Crompton Greaves, Eaton, Hyosung Power and Industrial Systems, Mitsubishi Electric, Schneider Electric, Siemens, Powell Industries Inc. and Xian XD.

INDIAN SCENARIO

Continues power supply is critical for any industry. As India is becoming an important global supplier of goods and services. Uninterrupted power supply gives immense significant likewise, the availability of goods quality electric equipment is imperative. The global market for switchgear is expected to post good growth rate in the coming years as demand soars exponentially worldwide. With the Indian government focused on bringing about improvement in the state electricity board, the Indian market for switchgear is likely to post good growth rate by 2021. The market for switchgear is well established in India, with a lot of potential for future growth coming from utilities, as well as commercial and industrial segments. With India facing an energy crisis, the government has plans to reform the power

sector. With reforms on the way, the future of the Indian switchgear industry looks bright and investment in the market is likely to flow in.

The Indian electrical equipment industry comprising of multinational, large medium and small players is fully geared up producing, supplying and exporting a wide variety of electrical equipment including switchgear and control gear items needed by the expanding industrial and power sector on which we focus in the article. This industry sector in fact manufactures the entire voltage range from 240V to 800KV. 1200KV equipment is under indigenous development for 1200KV Test station at Binna, MP. The current technology level in India is contemporary. It is estimated that the present size of the Indian switchgear industry, is around Rs.12000 crores. The industry grew by about 21% in volume terms in 2010 to 2011. Overall exports decreased by 8%, whereas imports increased mainly for MV/HV by more than 25%. Weight age of switchgear industry based on IEEMA electrical industry index is 15.2%.

The population of IEEMA members from switchgear is around 140 members. Currently, the MV and HV segments are suffering from over capacity due to lack of orders. Inadequate demand could be due to insufficient planning by the users and delay in finalizing tenders. Unfortunately bunching of orders also creates supply-delivery problems, also LI (Lowest Quoted price) procurement system followed by all utilities i.e., procuring products at lowest prices create a hurdle for bringing good quality material in the system. Further insistence on repeated type testing f products in spite of inadequate type testing laboratories poses additional delays and harm to the equipment.

The Indian government has initiated the Accelerated Power Development and Reform Program (APDRP) in order to minimize Aggregate Technical and Commercial (ATC) losses at the distribution level, with the objective of improving the financial health of State Electricity Board (SEB). This provides a huge opportunity for the power sector with Low Voltage (LV) and Medium Voltage (MV) switchgear being no exception.

STATE SCENARIO

The future of the LV and MV switchgear market is highly dependent on the rectification of current energy crisis, power sector reforms being implemented in India and reforms to arrest rising inflation. Growth of the Indian LV and MV switchgear market will be supported by

increased investments in the expansion of T and D network coupled with infrastructure and industrial development.

If the energy crisis is solved during the forecast period, investor confidence can be regained, allowing for increased investment in the utilities, industrial, infrastructure and commercial segments. The market for ISGs, MCCBs and C&Rs is expected to grow at a faster rate compared to the overall LV and MV market growth over the forecast period 2011 to 2017.

High level of competition in the LV switchgear market is expected, as major markets participants focus on maintain their current market shares. This will be made difficult with the emergence low-cost domestic players who market products of similar quality. Factors that are expected to restrain growth include the shortage of power supply being experienced in India, as well as the increase in interest rates caused by inflation, which can restrain investment in major projects during the forecast period.

With rising level of market maturity, suppliers are likely to benefit from operating in niche market, such as the intelligent overload relays, which can experience higher than average growth during the forecast period. The major technological factors in the market are safety, maximization of efficiency and reliability. Quality of the switchgear gives a market edge for most of the suppliers. Dedicated commitment to the overall quality of the switchgear has been determined as a mandatory strategy for the success.

Overall, the Indian LV and MV switchgear market is well established and organized suppliers are expected to generate significant revenues. Despite the predicated fluctuations in the annual growth rate during the forecast period, the industry expected to grow in terms of revenues.

COMPANY PROFILE:

Aluminium Industries Ltd. (ALIND)

The Aluminium Industries Ltd. came existence, on 2nd January 1946 promoted by then Seshasayee group with its conductor division set up Kundara, Kerala. Under technical collaboration from the world-renowned ALCAN, Canada the aluminium development Labourites UK and ALCAN, S.A, Zurish, Switzerland. Since then, ALIND has produced more than a million kilometres of AAC, ACSR, and AAAC conductor building the lifelines of power in India and Abroad. Presenting ALIND with its corporate office in Mumbai has manufacturing unit located in the three states of Kerala, Orissa and Andhra Pradesh manufactured cables and conductor, steel wires, wire working machinery high voltage switchgear and static relays exports division consultancy and engineering services.

Aluminium Industries Ltd. (ALIND) – a multidivisional corporate entity, started in Kerala is a foremost name in the power protection field of high voltage transmission and distribution networks in India and has started its commercial production of Switchgears in 1970 at Mannar in Alappuzha District of Kerala State.Today ALIND occupies a prominent position in the Switchgear Industry in India, because of its quality output and the advanced technology it employs. ALIND enjoys the further prominence as the Indian manufactures capable of offering equipments incorporating all the three existing technologies in the Switchgear – Minimum Oil, Vacuum and SF6.

ALIND the first most propagate the use and supply of aluminium conductors. To bring the revolutionary proper process of continuous casting and rolling off the aluminium wire. To

export conductors to be awarded the ISI mark to manufacturing fibre rein forced resign bonded.

Having obtained license for manufacturing of the new technology Sulphur Hexafluoride technical product range in the year 1974 - 1975 & 1978 - 1979 respectively. Collaboration with the same word leader MIS Alsthom Atlantique, France for manufacture of these breakers of 145K & 245kv ranges propagated this technology in India through the nation-wide appraisal programmers for all utilities and consultants and commenced manufactured towards early eighties.

Another break through was made in 1984 by venturing into vacuum technology by going for another collaboration with MIS Medensha electrical manufacturing company Ltd, Japan for Indian railways approved by RSDO after type testing and expensive field trails also. ALIND switchgear division believed in the philosophy of house R&D for upgrading its product range, widening its application engineering capabilities and innovative skills to come out with a wide range of customer friendly equipment in the entire range of transmission and distribution.

ALIND switchgear division has a well built and modern R&D and manufacturing set up for faster adaptation for its products to suits the varying needs of its prestigious client for the small scale and large scale, mega scale industrial customers to power corporation. Indian railway, state electricity boards and most of the consultants in addition to overseas client like Nigeria, Nepal, MOD and MEW Dubai, Muscat etc.

ALIND diversified it activities by unit in various streams of the power transmission technology and emerged as multi divisional composite corporate entity. ALIND has kept abstract of the last technology by collaboration with world leaders in their chosen fields. Quality policy of the Aluminium switchgear division shall be to offer quality products to the customer with a stipulated delivery time meeting their requirements at competitive prices and to guarantee trouble free operations and good after sale service.

After 1980 ALIND the golden era of ALIND ended ALIND faced acute difficulties from 1985. It has an accumulated loss of above 30 crores. The company has therefore has been referred to BIFR who declared ALIND a sick company under the industrial companies act 1985. BIFR (Board of industrial and financial Reconstruction) appointment IRBI as operating the agency for preparing a rehabilitation scheme for the company. The scheme proposed by

with union on several forms including join meeting before honourable minister of industries and labour.

ALIND ISO 9001-2008 COMPANY

ALIND Mannar division got ISO certificate. They are international recognition for the company. It will help the increasing company's export activities.

ALIND THE FIRST AND FOREMOST

- To propagate the use and supply of Aluminium conductors.
- To bring the revolutionary proper process continuous casting and rolling of Aluminium wire.
- To manufacture ACSR core Wire and High Tensile Steel Wire.
- To export conductors.
- To be awarded ISI mark.
- To manufacture fiberglass reinforced bonded components.
- To propagate SF6circuit breaker technology and obtain license for manufacture.
- Brought the revolutionary Properzi continuous Casting & Rod Rolling Process to India.
- Manufactured in 1961 ACSR Core wire and High Tensile Steel Wires, hitherto imported.
- The first company in Asia to have started manufacture use of Aluminium Conductors for Electricity Distribution

- First company in India to have paid 50% Bonus to its employees.

COMPETITORS OF ALIND

- GEC, Alsthom, France
- PRAYAG, Electricals, Hyderabad
- Electro Technical Switchgear Pvt. Ltd, Calcutta
- Board Stands, Yugoslavia
- Raw Son's Transformers Pvt. Ltd, Madras
- Crompton Greaves
- British Switchgear

CUSTOMERS OF ALIND

ALIND has sales office, at almost all states of India. Its products are purchased by KSEB, RRSEB and PSEB etc. Other customers are Indian Railway, NTPC and some other large-scale industries. ALIND's products are exported to Sri-Lanka, Tamil Nadu, Nepal and Bangladesh.

VISION

We are committed to design, manufacture and supply electrical switchgears in accordance with customer requirements ensuring continual improvement of the product and the quality management system. We shall ensure customer satisfaction by providing reliable products and services.

MISSION

Delight customers with modern manufacturing practices and innovate in electrical products. Develop long term relationships with our vendors/business partners to support our goals and synergic growth.

VALUES

Exceeds customer satisfaction in terms of quality, Price, on-time delivery and support. Always adhere to proper and high business ethics. Provide a place and nurturing environment for our employees to flourish and grow.

DEPARTMENTAL PROFILE

Departmentalization is a method of arranging activities to facilitate the accomplishment of organizational objectives. The organizational process of determining how activities is to be grouped is called departments.

The various departments of Aluminium Industries Limited, Mannar are the following:

- Production department
- Personnel department
- Sales department
- Finance & accounting department
- Design & development department
- Maintenance department
- Quality assurance & quality control department
- Purchase & Marketing department

1. PRODUCTION DEPARTMENT

The Production Department processes and tracks all of the drawings for any given project once they are released from the Design Department. This department is responsible for taking the drawings and information and breaking them clown in manageable packets.

Production is the functional area responsible for turning inputs into finished outputs through a series of production processes. The Production Manager is responsible for making sure that raw materials are provided and made into finished goods effectively. He or she must make sure that work is carried out smoothly, and must supervise procedures for making work more efficient and more enjoyable.

PRODUCTION PROCEDURE

1. The Production and Planning Department will set standards and targets for each section of the production process. The quality and quantity of products coming off a production line will be closely monitored.

2. The Purchasing Department will be responsible for providing the materials, components and equipment required to keep the production process running smoothly. A vital aspect of this role is ensuring stocks arrive on time and to the right quality.

3. The Stores Department will be responsible for stocking all the necessary tools, spares, raw materials and equipment required to service the manufacturing process. Where sourcing is unreliable, buffer stocks will need to be kept and the use of computerized stock control system helps to kept stocks at a minimal level but necessary level for production to continue unhindered.

4. The Design and Technical Department will be responsible for researching new products or modifications to existing ones, estimating costs for producing in different quantities and by using different methods. it will also be responsible for the design and testing of new product processes and product types, together with the development of prototypes through to the final product. The technical support department may also be responsible for work study and suggestions as to how working practices can be improved.

PROCUREMENT OF INPUTS

After examining the drawings forwarded by the drawing department, the planning department assesses the quality of the raw materials to meet the requirements of the drawings. Then they will draft the requirements with all the specifications of each component, finished, semi-finished and raw materials for the production. The planning department will forward this to the purchase department for the purchase of all the requirements. The purchase department will purchase it or will give it as a sub-contract.

The materials will be unloaded at the incoming section of the plant where the main store is located. Here all the goods are subjected to inspection, whether the goods unloaded meets the ISO standards and the requirements of the proposed drawings. The goods are inspected for its quality and quantity of the raw materials and semi-finished goods and the length, size, weight and the dimensions of the finished goods. The finished goods are also tested for QA and are tested electrically in the labs for the complete ensuring of that component. The testing will be done for the entire components without missing a single. Sampling is done for small goods like fuses; otherwise, all the components subjected to QA and are needed lab tests also. After the inspection of goods, they are stored. The goods are stored in two separate stores:

- Main store
- Component store

All the raw materials and semi-finished goods are stored in the main store and all the finished goods are stored in the component store. The goods storing in both stores will be properly Decoded' (a code starting with the alphabet D). Documents are prepared or the incoming goods in both the stores about the quantity, quality, remaining number of items etc.

Production process

The production process goes through different shops and stores:

- Main store
- Fabrication shop
- Auxiliary shop
- Machine shop
- Component store
- Assembly store
- Testing unit

2. PERSONNEL DEPARTMENT

The personnel department is now called Human resources department. Organizational unit or department having the functional responsibility of personnel administration. This department acts according to the man power needs of other departments and recruit employees.

RECRUITING PROCESS

The company presently have an employee strength of 200 plus. The new vacancies are filled by the selection of right candidates from the already selected trainees. The company provides a platform for the individuals to expose themselves by getting into the training period. After the training the company will recruit from the trainees and make them permanent.

TRAINING - TYPES AND PROCESS

The fresher will get a chance to explore themselves after the completion of their degrees like ITI, Diploma, and B. Tech etc. The training period is for 3 years. They will get the maximum exposure from the firm and will get the full guidance from the officials and the technicians.

TRAINING FOR THE STAFFS

The effective staff training is 10 identify the principal duties of the staff members themselves and 10 ensure that are aware of their individual roles and responsibilities. Beyond that, a regular scheduled session should be put in place that not only addresses current responsibilities, but also acknowledges that all staff should be interested in developing their own skills and understanding the importance of their in the business.

PERFORMANCE APPRAISAL SYSTEM

This system is used as an evaluation system and as a feedback system. The aim of the evaluation system is to identify the performance gap. This means that it helps determine the gap between the actual performance of the employee and that required or desired by the organization.

GRIEVANCE HANDLING

It is agreed by both parties that solution of problems and settlement of disputes and grievances can be best achieved by joint consultation which also contributes towards better understanding and relations. In consideration of the above, the following committees are constituted, and its constitution, objectives, function, tenure etc. will be discussed and finalized between the parties to this agreement for their proper functioning during the tenure of this agreement.

EMPLOYEE WELFARE

Safety and welfare measures are inevitable to any organization where workers are involved. Organization's responsibility to its employees extends beyond the payment of wages for their services. The safety and welfare on and off the job within is a vital concern of the employer. Providing a safe and healthy environment is a pre-requisite for any productive effort.

3. SALES DEPARTMENT

RESPONSIBILTIES OF THE HEAD OF SALES

a) Submit tenders, attend techno-commercial discussions, and procure orders from industrial customers and for spares in consultation with marketing wing.

b) Liaise with D&D, planning and QA departments for smooth execution of all orders.

c) Correspond with customers to get clarifications.

d) Obtain vendor registration with customers and other government or public and private sectors and statutory bodies.

4. FINANCE AND ACCOUNTING DEPARTMENT

The finance department of a business takes responsibility for organizing the financial and accounting affairs including the preparation and presentation of appropriate accounts, and the provision of financial information for managers.

Finance is the science of funds management. Activities with regard to finance in ALIND are mainly controlled by the chief finance and subsequent by other managers are obligated. ALIND Switch Gear division follows the double entry system for keeping and recording the books of accounts. The main function of financial department is collection of funds.

The main activities covered by the financial department include:

1) Book keeping procedures

Keeping records of the purchase and sales by a business as well as capital spending . These records today are typically kept on computer files.

2) Creating a balance sheet and profit and loss account

Financial statement need to be produced at given time intervals, for example at the end of each financial year. Trial balance are extended from the ledger entries to create a Balance Sheet showing the assets and liabilities of a business at the year end.

3) Providing management information

Managers require ongoing financial information to enable them to make better decisions. For Examples, they will want information about how much it costs to produce a particular product or service, in order to assess how much to produce and whether it might be more worthwhile to switch to making an alternative product.

4) Management of wages

The wages section of the finance department will be responsible for calculating the wages and salaries of employees and organizing the collection of income tax and national insurance for the Inland Revenue.

5) Pay roll calculations

The pay roll system includes Basis salary, DA, Loss of pay, Special allowance, HRA, ESI, etc.

PROCESS OF FINANCE DEPARTMENT

The department of ALIND is divided into five sections for carrying out its process, they are;

- Bills and Materials
- Sales
- Costing, MIS, Budget
- Cash, Bank, Payroll
- Tax and Duties

1) BILLS AND MATERIALS

The main functions are stores accounts and receiving, dispatch and holding of bills.

2) SALES ACCOUNTS

Some of the functions are;

- Accountability for selling and distribution of products and by products.
- Recording the transaction.
- Compilation of reports.

3) COST, MIS AND BUDGET SECTION

It is concerned with ascertaining the cost of production, providing information, helping to prepare budgets, forecasting the performance and finally making a plan.

- **COST ACCOUNTING**

  Direct expenses are recorded to the respective cost center, indirect expenses are separately booked and allocated at the end of the year.

- **MIS (MANGAEMENT INFORMATION SYSTEM)**
    - Divisional report- two monthly report for each division- one for the finance department and another for the GM's office.
    - Profit and loss accounts statement and its analysis.
    - Production performance of the division.
    - Inventory position.

4) TAX AND DUTIES SECTION

It is concerned with calculation and payments of various taxes and duties to the government.

ACCOUNTING POLICIES

A. BASIS OF ACCOUNTING

a. The financial statements are prepared under historical cost convention, on the accounting principles of going concern and accordance with the applicable accounting standards.

b. All expenses and income to extend ascertainable with reasonable certainty are accounted for on accrual basis.

The presentation of financial statements is conformity with Generally Accepted Accounting Principles (GAAP) requires management to make estimates and assumptions that affects the reported amounts of assets and liabilities, and the disclosures of contingent liabilities on the date of the financial statements.

B. FIXED ASSETS

The company assesses at each balance sheet date whether there is indication that any assests may be impaired . If any such indication exists, the carrying value of such assets is reduced to its recoverable amount and the amount of such impairement loss is charged to profit and loss account.

C. INVESTMENTS

Long term investments are followed . No adjustment is made is carrying cost for temporary decline in the value of investments and when these are considered strategic in nature by the organization.

D. RETIREMENT BENEFITS

Provident and family pension as a percentage of salary and wages for eligible employees contributed to the Provident Fund Trust maintained at the various units of the company except Relays Division Trivandrum where contribution are made directly to the Provident Fund Commissioner.

E. DEPRECIATION OR AMORTISATION

a. Lease hold land is amortized over the period of lease.

b. In case of building and plant and machinery depreciation is calculated on straight line method and in the case of other assets on written down value method at the rates and in the manner as prescribed in schedule 14 to the Companies Act 1956.

c. Each individual asset costing less than Rs.5000 is flly written off in the year of acquisition.

5. DESIGN AND DEVELOPMENT DEPARTMENT

The design and development department of ALIND in the switchgear division is responsible for the functions connected with technological, technical design development and techno-commercial aspects of all products in manufacturing range and being developed afresh. The main function of design and development department in ALIND is providing designs to the products and the development of that product up to the standards fixed by the company. In this department the design for new products and the drawings for those products are undergoing. If there is any mistake in the drawing or meeting the fixed standard, then the production of that product will be stopped and further development will be made to that drawing or product to meet the needs of the customer. Design and development department sends it to the management and also to government and customers. If the project is approved then starts the production.

The design and development department are divided into two wings. They are:

- Design wing
- Development wing

FUNCTIONS OF DESIGN WING

a) Updating all manufacturing drawings.

b)Detailed design of products.

c) Preparing drawings of each product.

d) Sending drawings to customers.

e) Making design as per the environment needs.

f) Technology absorption.

g) Giving instruction to production department.

h) Deciding raw materials required.

FUNCTIONS OF DEVELOPMENT WING

a) Manufacturing prototypes.

b) Completion of material inputs required for the Production.

6. MAINTENANCE DEPARTMENT

All the electrical and maintenance work are done by this department. This department has tyro wings, an electrical main wing and breakdown maintenance wing. The maintenance department operates in two shifts plus general shift on week days and on Sundays. Breakdown maintenance is the system followed by this department. However, a weekly preventive maintenance program is there which is scheduled on Sunday. This preventive maintenance covers all the activities such as lubrication of machine parts, checking for belt tension, compressor condition, monitoring and rectification if required etc.

7. QUALITY ASSURANCE AND QUALITY CONTROL DEPARTMENT

This department will work and implement quality management systems on the line with the requirement of ISO 9001 STANDARDS. The chief of quality assurance and quality system will the management respective and they are responsible for all the activities related to quality system. He reports to the chief of the division.

The activities of this department include incoming material inspection, shop inspection of the finished goods, identification of quality problems and adaption of corrective actions, calibration of measuring instruments.

FUNCTIONS AND RESPONSIBILITIES

a) Product conformance to quality standards

b) Carry out periodic calibration of measuring instruments and to test equipment's as per the schedule

c) Inspection of items is subcontract work if any

d) Liaison with customer or external agencies.

8. PURCHASE AND MARKETING DEPARTMENT

PURCHASE DEPARTMENT

This department deals with procurement of raw materials, components, operating supplies, tools, spares etc. and also handles collection of inward materials, dispatch of outgoing goods and civil construction.

FUNCTIONS AND RESPONSIBILITIES

The purchase and construction department is headed by the chief of purchase and construction and his Functions are given below:

a) Procure raw materials or components or capital goods conforming to specifications. Ensure that all materials and components from suppliers accompanied by necessary documents including proper test certificates whichever applicable.

b) Carry out assessment and maintain approved vendors list. This will be updated once in a year.

c) Maintain proper records tier material accounting and financial accounting as applicable to purchased items.

d) Sub-contracting of work to outside agencies for maintenance or fabrication or assembly of components.

e) Arrange collection of incoming goods and dispatch of outgoing goods. Dispatch of outgoing goods will be in co-ordination with planning and stores department and marketing and sales department.

MARKETING DEPARTMENT

This department deals all activities pertaining to tendering, procurement of orders, techno-commercial compliance, execution of orders and collection of payments of all the products manufactured by the division. The chief of marketing and sales may reproduce and calculate the abstracts of the procedures as required in the department. The circulation and its control will be his responsibility. He will maintain a distribution chart for this.

FUNCTIONS AND RESPONSIBILITY

a) Formulating strategy depending on marketing or customer needs.

b) Interact with customers and appropriate them about quality of the product.

c) Preparation of annual marketing and sales monitoring.

d) Co-ordinate tender review meetings on receipt of order.

PROCUREMENT OF ORDER

The marketing department collects information on tender enquires from any of the following and arrange for procuring tender specification.

• Leading news paper

• Tender bulletins

• Agents and regional offices

After obtaining tender specification, marketing wing will register it in the tender enquiring register (MK/REG/01). All tender details are entered in the register and serially numbered. On the receipt of tender enquires, chief of marketing distributes enquires to the concerned person according to the work load on each engineer and he or she will thoroughly study the specification.

Marketing wing in consultation with Design and Specification department scrutinize the tender specifications and in case any further clarification is required marketing, wing will contact or write to the party and collect all the required details before preparing the offer to the party. Marketing wing further prepares the legend for writing assembly against the tender.

The price details of the bought-out items are collected from purchase department and costing details from accounts department and prepare the tender.

Marketing wing organize the tender committee (review of customer requirements) with ED and departmental heads of DS, Planning, Purchase, QA and production to finalize the specifications, delivery etc. to be quoted against the tenders. Minutes of the tender committee (review of customer requirements) is circulated among all the participants. The decision to organize the meeting will be at the discretion of the chief of marketing- and sales department and record of the same (MK/MTC) is maintained

PRODUCT PROFILE

Circuit Breakers are the main product of ALIND. Circuit Breakers are the most vital equipment for the safety of people and installation in the power system. It as a device is designed to break and open high voltage electrical circuit under normal condition without any harmful electric are:

CIRCUIT BREAKERS

Circuit Breaker is an electronic device like fuse, interrupts an electronic current in a circuit when the current became too high. It is designed to close and open an electrical circuit under normal and abnormal condition without harmful etc. The main function of a circuit breaker is to break the line when current exceeds the predetermined safety valves of high voltage is included in the circuit. This high voltage creates a spark across terminal. The advantage of circuit breakers that it can be reset after it has been tripped; a fuse must be replaced after it

has been used once. At high current, the arc is very high and dangerous for reduction of are we needed quenching medium and high-speed mechanism. A Circuit Breakers having capacity of sensing device are called current transformers.

If the current is exceeding a particular limit it is sensed by a relay and it give the circuit breaker tripping command. After the trip is closing, command both manual and electric operate, the closing coil and breaker can be closed.

The ALIND produces three types of circuit breakers. They are as follows:

1. Equipment with vacuum technology

2. Equipment with SF6 technology

3. Equipment with minimum oil technology

Equipment with vacuum technology

In Vacuum Circuit Breaker is done in a vacuum bottle. Since there is no ions or movable particles, are will be minimum. Set up is known as vacuum bottle, ALIND imports the vacuum bottle from BEL. The pressure inside the bottle is that about 10.5 meters of 11g.

The main disadvantage of vacuum bottle is that it cannot be repaired. The main advantage is that at the time of break no decomposition of some ions.

Salient features:

• Fully compartmentalized and compliance to internal as per standards.

• High reliability.

• Extensible and modular construction.

• Emerging tripping arrangement without opening the breakers chamber front doors.

• Fully inter located for operational safety.

• Storage energy type spring closing mechanism.

• Horizontal draw on type.

It includes:

• Indoor Metal clad switchgear up to 12KV, 44KA, 3200A, 36KV, 26.2KA, 1600A.

• Outdoor metal clad kiosk 12KV, 26.2KA, 1250A.

• Outdoor porcelain clad breakers 12.2KA, 26.2KA, 1600A, 36KV, 26.2KA, *1600A (*3000A breaker can be offered optionally).

• 25KV Single pole interrupters/Breakers for railway traction.

• 12KV, 12.5KA, 1400A, auto re closer and sectionalize.

Equipment with SF6 technology

The SF6 breakers are the most modern and largely used breakers. In this type of circuit breakers, SF6 is used as the medium. The electric strength of SF6 is 40km/mm, it has very good conductivity of heat.

High voltage circuit breakers are available for indoor and outdoor application. The latter being in the form of breaker poles housed in ceramic insulators mounted on a structure. Certain interceptors in a high voltage circuit are obtained by separating to contacts in a medium.

SF6 having excellent dielectric are quenching properties. After contact separation current is carried through are and is interrupted when this arc is called by gas blast of sufficient intensity.

Gas blast applied on the arc must be able to cool it rapidly. Therefore, that gas temperature between the contacts reduced 20000k in a few hundred microseconds, so that it is able to with stand to the transient recovery voltage that is applied across the contracts after current interruption.

It includes:

• Indoor metal clad switchgear up to 12ky, 40Ka, 3200kA.

• Outdoor porcelain clad breaker (72.5kV, 25ka, 200A with spring drive).

• 25Kv (52kV class) 20kA, 1600A single pole breaker for breaker traction.

• Outdoor porcelain clad breaker (145V, 31.5Ka, 3150A and 245kV, 4000A, 40kV).

Equipment with minimum oil technology

It is most widely used system in medium and low voltages. In MOCB transformers oil is used as the medium. The arc quenching is done inside a chamber called explosion bottle. The bottle is made with fibre glass, insulator. There will be a porcelain insulator around the explosion bottle if the breaker is outdoor type. The breaking and making is done inside the explosion bottle. The moving contact is called contact rod. The trip of contact rod is a special alloy of tungsten and copper.

The fixed and sliding contact consists of a number of finger assemblies. The higher assembly helps to maintain the contact at any position of the rod while it is moving. They are made of thin layer of copper sheets riveted together. They are also silver plated.

The tip is the material, which does not fuse easily due to arcing. The contact rod moves a high speed, which is necessary for reduced arc. The mechanical system at the end of the rod serves this purpose. At the time of break, the oil decomposes to give gaseous products. The design of explosion bottle is in such a way that fresh oil forces to the point of arc and arc is destroyed. The carbon deposit all minimum because of re-combination. Oil circuit breaker can be further classified in to quantity of oil as Bulk Oil Breakers (BOCB's) and Minimum Oil Circuit Breakers (MOCB).

Control Mechanism of Circuit Breakers:

Spring mechanism and Hydraulic mechanisms are the mechanisms used in circuit breakers. Certain amount of mechanical force is necessary for making and breaking of the contact control mechanism provides the necessary force and enables the sudden tripping and closing operation of circuit breakers.

In control mechanism an electric motor is provided. The motor drives the sprocket wheel through chain. As the motor rotates the cram actuates and lifts the latch during each turn. This lifting of latch pushes the main racket wheel, which rotates slowly charging the spring.

A spring-loaded latch is provided for preventing return back of racket wheel upon on full charging the spring. The supply of the motor is cut out end motor stops automatically on charging position. It is held in the position with latch. For tripping, the latch is released with charging solenoid and punger movement. This can be made manually or electrically. The

release of the latch is in tripped position. The electric motor is again energized with the result that after a few seconds control springs are charged ready to perform another closing operation.

CURRENT TRANSFORMERS

A current transformer is a type of transformer that is used to reduce or multiply an Alternating Current (AC). It produces a current in its secondary which is proportional to the current in its primary. Current transformers, along with voltage or potential transformers, are instrument transformers. Instrument transformers scale the large values of voltage or current too small, standardized values that are easy to handle for measuring instruments and protective relays. The instrument transformers isolate measurement or protection circuits from the high voltage of the primary system. A current transformer provides a secondary current that is accurately proportional to the current flowing in its primary. The current transformer presents a negligible load to the primary circuit.

Current transformers are used for step down the system current and system protection current measurement. ALIND manufactures 220 KV, 132 KV, 66 KV, 33 KV and 25 KV transformers.

CONTROL PANELS

Control Panels are used to detect the amount of current. If it crosses the specified range of control panel gives signal to the circuit breakers. After receiving signal from control panel, the circuit breaker breaks circuit to avoid accident.

2.2 MARKET DEMAND AND SUPPLY

Global Switchgear Market size in 2019, was valued at over USD 120 billion and is anticipated to register over 6% gains up to 2026. Increasing investments toward infrastructural development along with growing demand for efficient transmission and distribution control systems will drive the business scenario. In addition, growing inclination toward renewable power generation coupled with integration of cogeneration plants across the power grid infrastructure will propel the global industry demand.

The global switchgear market reached a value of nearly $96.9 billion in 2019, having increased at a Compound Annual Growth Rate (CAGR) of 5.9% since 2015. The market is expected to decline from $96.9 billion in 2019 to $82.1 billion in 2020 at a rate of -15.3%. The decline is mainly due to lockdown and social distancing norms imposed by various countries and economic slowdown across countries owing to the COVID-19 outbreak and the

measures to contain it. The market is then expected to recover and grow at a CAGR of 7.5% from 2021 ad reach $113.5 billion in 2023.

The global switchgear market is expected to register a CAGR of 7% during the forecast period (2021 - 2026). The rising energy demand to encourage rapid urbanization and the new generation mix is expected to propel the switchgear market. Switchgear equipment is fundamentally used in the complex electrical substations to withstand fluctuating operating voltage in highly volatile environmental conditions. The development of new industrial structures, including powerplants for safe and reliable operations, is further estimated to stimulate the growth of the market.

Switchgears are electrical devices composed of fuses, circuit breaker and electrical disconnect switches used to protect, monitor, control and isolate electrical equipment. Switchgear breaks, carries and allows the smooth flow of current load by clearing the electrical fault. parameters across the power system. These devices are utilized by residential, commercial, utilities and industrial customers across low, medium and high voltage applications.

• Increasing investments to develop renewable energy and favourable norms of the governments to support the new technology, are anticipated to foster the industry landscape. According to IEA's World Energy Investment Report 2019, the global energy investment stabilized at over USD 1.8 trillion in 2018, with more spending in upstream oil and gas and coal supply, offset by lower spending fossil-fuel-based generation and renewable power.

• Bulk power generation plants using onshore and offshore wind, solar, and hydro sources are set to increase the need for new transmission and distribution lines, which would affect the switchgear market. According to the IEA's Offshore Wind Outlook 2019, investment in the sector neared USD 20 billion, compared to under USD 8 billion in 2010. Further, the agency predicts that offshore wind investments would reach USD 1 trillion by 2040, with global capacity set for a 15-fold increase.

• The upgradation of the aging infrastructure is further anticipated to power the growth of the market. For instance, around 65 gigawatts of European onshore wind turbines will reach end-of-design-life by 2028. The upgradation of equipment concerning extending the life span would drive the market for switchgear.

• Another factor fuelling the switchgear market growth is the rising construction activities worldwide, owing to the increasing focus on infrastructure. The construction industry is witnessing growth in the emerging economies, including China and India, apart from the advanced economies, like the United States, Canada, and countries in the European Union (EU), which are already focusing on their existing infrastructure.

• However, stringent environmental and safety regulations related to the switchgear market are restraining factors. The increasing rivalry from the unorganized sector of the switchgear market is likely to restrain the switchgear market. Also, HVDC transmission networks and upcoming smart cities can lead to opportunities in the switchgear market.

• Moreover, the market is witnessing various innovations globally. Eaton introduced an LV switchgear designed in two parts. In July 2019, the company acquired Innovative Switchgear Solution Inc. Through this acquisition, Eaton laid a step forward to expand its product portfolio of medium-voltage electrical equipment. Further, Alstom has debuted the installation of HYpact switchgear equipment in Austria.

• The switchgear market is expected to be impacted significantly by the COVID-19 outbreak as the major suppliers of raw materials and finished products have been hugely impacted in Asia-Pacific. The industry is facing a reduction in production, disruption in the supply chain, and price fluctuations. The sector is also affected by the impact of coronavirus on the power sector of the region. Demand for goods and services and cash flow of vendors have considerably reduced.

2.3 LEVEL AND TYPE OF COMPETITION

The Indian electrical equipment industry, comprising of multinationals, large, medium & small players, is robust and capable of producing, supplying and exporting a varied range of electrical equipment including switchgear and control gear items needed for expanding industrial and power sector in India. This industry sector in fact manufactures the entire voltage range from 240V to 800kV. Besides, 1,200kV equipment is also under development. The technology level is contemporary.

Currently, the MV & HV segments are suffering from overcapacity due to lack of orders. Inadequate demand could be attributed to insufficient planning by the users and delay in finalizing tenders resulting in bunching of orders which also creates supply-delivery

problems. Also, L1 (Lowest Quoted Price) procurement system in utilities, which entails procuring products at lowest price, creates a hurdle for bringing in good quality material into the system. Further, the insistence by utilities on repeated type testing of products, despite there being no change in design, poses additional delays and adds to unnecessary cost. This is further impacted by inadequate type-testing laboratories. Imports of high voltage switchgear products also saw a jump of more than 50 per cent in value terms.

Growth in the historic period resulted from rise in power consumption, favourable government initiatives, and economic growth in emerging markets. Factors that negatively affected growth in the historic period were political uncertainties and geopolitical tensions, and susceptibility to hacking.

Major threats facing the switchgear industry can be summarized as follows:

- Underutilization of installed capacity
- Lack of HV switchgear testing capacity in the country
- Increasing competition from unorganized sector in low end/low tech items/imports in LV segment and project imports.
- One sided contract by the user industries/price variation contracts not accepted by many users
- Improper procurement planning/ bunching of orders
- Entry of unproven contractors/ subcontractors with minimal technical knowledge.
- Lack of standard specification and design parameters clubbed with increasing trend of customization is adversely impacting the delivery schedule as well as taking away benefits of economies of scale.
- The new clause of consequential damages which in short means an organisation supplying equipment is not only responsible for the supply but also for the damages arising out of the equipment.

COMPETITORS OF ALUMINIUM INDUSTRIES LTD.

- **CG Power and Industrial Solutions**

CG Power and Industrial Solutions Limited, previously known as Crompton Greaves Limited, is an Indian multinational company engaged in design, manufacturing, and marketing of products related to power generation, transmission, and distribution. It is based

in Mumbai and a part of the Murugappa Group. The company was restructured in 2016 following the demerger of its consumer goods business. CG manufactures the widest range of Medium to Ultra High Voltage (UHV) switchgear products to meet the requirements of power generation and distribution substations in utilities and industries. Their products are in service for several years in many countries. The company also export Low Voltage Panel Products from India based export house.

- **Rowsons Elektricals**

Rowsons Elektricals Pvt. Ltd., Madras specializes in marketing Industrial Electrical Equipment- Offering various types of Transformers including Oil Cooled Transformer, Electrical Transformer, Fluid Filled Transformer, Automatic Voltage Controller, High Voltage Transformer, Power Transformer, Amorphous and Fluid filled Power & Distribution Transformers, Dry Type and Resin Cast Maintenance Free Transformers, Induction and Arc Furnace Transformers, Mobile Transformers and Substation, HT AVR, 2 In One TRF with HTAVR, Vacuum Circuit Breakers, Vacuum Contractors, On Load Break Switches, Solar Systems, Reactors, Robotics, Powerboss, Artic Master RMS and many more Energy Saving equipment.

- **Electro Teknica Switchgears Pvt Ltd**

Electro Teknica Switchgears Pvt Ltd is a Private incorporated on 03 May 1988. It is classified as Non-govt company and is registered at Registrar of Companies, Kolkata. Its authorized share capital is Rs. 5,000,000 and its paid-up capital is Rs. 2,418,000. It is involved in Manufacture of structural metal products, tanks, reservoirs and steam generators

- **HPL Electric & Power Ltd**

A multi-product electric equipment manufacturer with a wide range of products divided into Metering Solutions, Switchgears, Modular switches, LED Lighting and Wires & Cables with a mission to provide innovative and best-in-class technology products to domestic as well as international markets. HPL electric had the largest market share in the market for electronic energy meters in India in fiscal 2015, with one of the widest range of products and portfolios of meters in India and the fifth largest market share for LED lamps during the corresponding period HPL is also the oldest manufacturer of LV switchgears in India.

- **GEC Alsthom Energy Systems Limited**

Alstom SA is a French multinational rolling stock manufacturer operating worldwide in rail transport markets, active in the fields of passenger transportation, signalling, and locomotives, with products including the AGV, TGV, Eurostar, Avelia and New Pendolino high-speed trains, in addition to suburban, regional and metro trains, and Citadis trams. In 1988 a joint-venture was formed between the General Electric Company (GEC) with Company General Electric (CGE) that led to the establishment of an Anglo-French company, GEC Alsthom in 1989. This company encompassed the Power Generation and Transmission, Rail Transport (25%) businesses from the constituent companies of GEC and CGE.

2.4 PRICING STRATEGIES IN THE INDUSTRY

Pricing Emerges as Key Competitive Differentiator in Switchgear and Fuse gear Market. Robust demand in its core areas of commercial and industrial applications will maintain momentum behind sales in the well-established switchgear and fuse gear market. The sheer size of the market and the breadth of products are indicative of the diversity and the substantial customer base in the switchgear market. In future years, rising replacement and upgrade activity, coupled with growing demand from large sized customers in key regions are expected to give the industry new impetus. Increasingly fierce competitive forces, compounded by the difficult economic conditions and the subsequent decline in investor confidence and delay in investment, have influenced pricing strategies for switchgear components.

Revenue development in this industry has, to a large degree, been determined by falling prices. Nevertheless, technological advancements in some product areas of the overall switchgear market signal potential for an acceleration in the uptake of value-added products, helping some companies to carve a profitable niche in the field of value-added, higher specification products. While the majority of the demand remains focussed on standard products, the widening appeal of higher specification alternatives will enable some companies to capture a larger share of the market. Nevertheless, in most areas core sales are still associated with low technology components sold in large quantities.

In today's switchgear market, the once strong bond between a customer and supplier now rarely exists. Customers have a large choice of suppliers when selecting a product to meet their specific needs due to the increasingly complex spectrum of available product ranges. In

light of the huge variety of products, customers can afford to be more discerning. This trend places mounting pressure on manufacturers to produce higher-quality products to ward off competition. Addressing the issue of safety, which has historically played a pivotal role in the development of this market, legislation has forced companies to maintain certain minimum standards. Demand has benefited from active safety concerns in key end user groups. As safety issues become more important across industry in general, demand for switchgear products can be expected to advance. The moulded case circuit breakers sector was the largest single sector, accounting for 20.6 percent of the total revenues from the switchgear market. Miniature circuit breakers were the second most important product segment, with contactors ranking in third position. Miniature circuit breakers are increasingly the component of choice, superseding fuse gear, which is forecast to see the largest decline in importance in future years. Miniature circuit breakers are cheap and versatile and this has made the technology the customers favoured choice for many industrial and commercial applications.

Customers in the switchgear market are increasingly looking to source all components from a single supplier or distributor. This trend has favoured larger competitors in the switchgear market as smaller competitors generally lack the resources to match the comprehensive product line-up of these companies. Currently, this has resulted in the success of several large manufacturers able to compete across all the product segments. Some competitors have embarked on an expansion and acquisition drive and further activity in this area is expected to characterise this marketplace during the forecast period, as manufacturer attempt to build a strong product portfolio able to meet the rising demands of the customer for all products to be purchased from a single source. Manufacturers that fail to expand their overall coverage can be expected to see enhanced pressures in terms of gaining and maintaining orders and customer loyalty.

Schneider Electric was the European market leader with an 18.2 percent market share in 2002, followed by Siemens and ABB. Over the last few years, competitive developments in the European switchgear market have been affected by the aborted merger of Schneider Electric and Legrand. The strategic implications have influenced all competitors in the European switchgear market, because of Schneider's leading position. Despite the potential pressures of the results of the aborted merger, Schneider has been able to further enhance its overall standing, while other leading competitors have been unable to capitalise on the situation. Other leading suppliers, including Siemens, ABB Moeller and Rockwell

Automation, will all have to further review their strategies as they aim to regain or build market share.

2.5 PROSPECTS AND CHALLENGES OF THE INDUSTRY

The Indian switchgear market is expected to see high demand due to exponential growth in residential, commercial, and industrial sectors that the country is witnessing. With the expansion of smart grids, the need for quality power is also increasing. Therefore, for smart grids to function optimally the communication between the switchgears, other network equipment and operators also become progressively important.

The switchgear industry is largely dependent on the financially weak electricity boards for its sales. Moreover, the L1 procurement system in utilities, which means procuring products at lowest prices, creates a hurdle for bringing good quality material in the system.

Some of the challenges faced by the switchgear industry are:

- Underutilization of installed capacity
- Lack of HV switchgear testing capacity in the country
- Increasing competition from unorganized sector in low end/low tech items/imports in LV segment and project imports.
- One sided contract by the user industries/price variation contracts not accepted by many users
- Improper procurement planning/ bunching of orders
- Entry of unproven contractors/ subcontractors with minimal technical knowledge.
- Lack of standard specification and design parameters clubbed with increasing trend of customization is adversely impacting the delivery schedule as well as taking away benefits of economies of scale.
- The new clause of consequential damages which in short means an organisation supplying equipment is not only responsible for the supply but also for the damages arising out of the equipment.

COVID-19 will affect the LV and MV market, especially on the projects side. On the domestic front, 60 percent of switchgear business is coming from projects whereas in the Industrial segment with LV and MV more than 80 percent business are projects based only.

Because of COVID 19 pandemic most of the residential, commercial, and industrial projects are currently on hold and this will continue till the markets are not stabilized and revamped.

The major issue is adequate labour force and manpower, but for the domestic segment it is expected to be temporary till the lockdown relaxation take place. Hence the retail player will not be much impacted in this situation. However, the concern for safety will increase post COVID-19 and it will also reflect in people installing safety devices including switchgear at homes and work places which will lead to demand increase in the medium term. The effect of COVID-19 pandemic is rising day by day and affecting the supply chain across all sectors of the economy. The manufacturing cycle of many industries including electronics and semiconductor, have been affected very badly. Today, the major concern for the manufacturing companies is the raw material and transportation. If the transportation is not working appropriately there will be no raw material leading to stoppage in production. LV and MV switchgear industry are being impacted drastically as both manufacturing and supply chain operations are being disrupted.

COVID-19 has introduced new challenges that needed to be addressed quickly, including liquidity crunch, worker absence, restricted site access and collaboration, travel limitations, fatigue and new ways of working.

Lack of product awareness is one of the factors affecting the increase in demand of switchgear. In many old houses and in smaller towns and rural areas, the conventional fuses are still used to protect the circuits. A wide awareness campaign is required to bring the awareness about switchgear, earth leak protection, residual current protection etc. Government bodies and power supply companies should make switchgears compulsory to protect human life, prevent fire accidents and avoid overloading of power lines.

The main challenge that faces the customers is the seamless integration of various digitally-enabled products and solutions such as switchgear, instrumentation and automation while leveraging data for generating preventive and predictive analytics.

The industry is also seeing the emergence of new business models such as ‘pay as you save’. The switchgear is turning inherently intelligent, allowing customers to have better asset management and go for predictive maintenance, thereby reducing downtime. There will also be a convergence of switchgear devices, integrating intelligence and increased safety features.

2.6 KEY DRIVERS OF THE INDUSTRY

Increasing demand for electricity in the emerging and developed countries, backed by increasing investment in infrastructure is expected to drive the switchgear market globally. However, intense price-based competition is expected to affect the overall growth. The global switchgear market is expected to be driven by the increased investment in transmission and distribution infrastructure and the up-gradation of aging substation equipment. This section of the report also illustrates the global switchgear market size growth by revenue as well as the switchgear market share by region and product.

The key drivers of the switchgear market include:

- **Increasing Demand for Electricity:** The growing demand for electricity is expected to be a key driver of the switchgear market in the forecast period. This can be attributed to rising populations and increasing demand for electrical and electronic appliances, especially in developing countries such as China, India, Brazil and some African countries. Global electricity demand is projected to grow from 25,000 TWh in 2017 to 38,700 TWh by 2050, an increase of 57%. Emerging economics such as China and India will account for a major portion of this growth. Electricity consumption in India is expected to grow at a CAGR of 7.1% during 2017 to 2022. Furthermore, the global household appliances manufacturing market is expected to grow from $334.3 billion in 2019 to $402.93 billion in 2023 at a CAGR of 4.8%, supporting the demand for residential switchgears market, going forward.
- **Rising Construction of Commercial Buildings to Spur Growth:** The rising awareness programs about the new generation mix, as well as the increasing demand for energy to keep up with the rapid urbanization across the globe would affect the switchgear market growth positively in the forthcoming years. Switchgear tools are extensively used in complex industries and electrical substations for maintaining voltage stability and withstanding varying operating voltages. Apart from that, the increasing modernization and development of state-of-the-art industrial structures, such as government offices, banks, power plants, and other commercial buildings would augment growth. However, the efficiency of switchgear equipment installed outdoors can be affected by harsh climatic conditions, such as humidity, pressure, and temperature. This factor may obstruct growth.

- **Aging power infrastructure:** Growing energy demand has resulted in the need for a stable and reliable T&D network. Uninterrupted power can only be ensured through a system capable of handling sudden power spikes and drops. The US endures more blackouts than any other developed nation. The main reasons behind the increasing number of blackouts are aging infrastructure, lack of investments, and lack of clear policy to modernize the grid. New regulations to reduce/limit the power blackouts and upgrade the aging power networks across the globe are creating a market for the entire power sector equipment value chain. Switchgear, with the help of monitoring solutions, alerts the maintenance team when aging and over-used equipment are on the verge of failure and enables them to make smarter decisions by providing real-time data to reveal problems and improvement opportunities.
- Substantial investment in the emerging economies including China, India, Indonesia, Brazil on the transmission and distribution infrastructure is expected to be a major driver for the demand of switchgears.
- With the rapid industrialization and urbanization across the globe, there is a substantial increase in the investment in the end-use segment for power, which is expected to support the demand for medium and low voltage switchgears.
- In developed economies such as the US and other Western European nations, the switchgear demand is expected to be driven by the increased focus on cleaner energy sources in order to curb carbon emissions.

The key restraints on the switchgear market include:

- **Volatility in Raw Material Prices:** Volatility in raw material prices is expected to limit the growth of the market in the forecast period. Copper, steel, and silver are the major raw materials used in manufacturing switchgear and they constitute around 75% of the total manufacturing costs. Prices of raw materials such as steel are highly volatile and are dependent on several factors such as world economic activity, strength of US dollar, trade tariffs, and several other political and environmental factors. Steel prices are expected to increase in the near future owing to the adverse effects of the COVID-19 pandemic and supply chain interruptions. Volatile prices will negatively affect the market for switchgear in the forecast period.
- **Harsh environmental conditions:** The environmental parameters such as temperature and humidity, as well as water seepage out of the ground, are some

factors that can affect the efficiency of switchgear electrical networks, especially which are installed outdoor. To ensure the reliable and proper functioning of switchgear within the substation environment, the equipment must meet or exceed the rigorous specifications. Therefore, the environmental condition is a crucial factor that has to be considered before installing electrical devices, which include switchgear.

- **High cost of switchgear:** Switchgears isolate electric circuits from the power supply to enable a safe execution of maintenance activities or to clear faults. Energy consumers use switchgear to protect electrical equipment from irregular surges. Because of all these features, the cost of the switchgear is high. A switchgear assembly has two types of components—power-conducting components, such as switches, circuit breakers, fuses, and lightning arrestors, that conduct or interrupt the flow of electrical power and control systems, such as control panels, current transformers, potential transformers, protective relays, and associated circuitry that monitor, control, and protect the power-conducting components. These components make a complete switchgear solution that is complex and expensive. The capital-intensive nature of switchgear could act as a restraint for the growth of its market.
- Volatility in steel, copper, and crude oil prices are expected to restrain the growth of switchgear globally. Such volatility in raw material prices has created pressure on the manufacturers' profit margin, due to which, some of the global players in the industry have shifted their production facilities to regions that facilitate the lower cost of manufacturing as well as, have a higher demand, like China, India, etc.
- Intense price-based competition, especially in the emerging economies between local players and established multinationals puts immense pressure on the revenue stream of switchgear manufacturers.
- Furthermore, with the lack of substantial product differentiation, price becomes an important criterion for winning contracts.

Major trends influencing the switchgear market include:

- **Digital Switchgear:** Companies are increasingly manufacturing digital switchgear especially in the low voltage switchgear market. Digital switchgears use the collected information to analyse the performance of current levels, temperature, operating cycles, and load levels that helps in improving the performance and reliability of

switchgears. Smart switchgears allow grid optimization, improve quality, and reduce both transmission and operating losses.

- **Technological Advancements in Gas-Insulated Switchgears (GIS):** Consumers are preferring technologically advanced or innovative gas-insulated switchgears. To cater the rising demand for technologically advanced gas-insulated switchgears, manufacturers are launching a range of products.

The top opportunities in the switchgear market segmented by product type will arise in the low voltage market segment, which will gain $8.0 billion of global annual sales by 2023. The top opportunities in the switchgear market segmented by end user will arise in the industrial segment, which will gain $4.8 billion of global annual sales by 2023. The switchgear market size will gain the most in the China at $4.4 billion.

Market-trend-based strategies for the switchgear market include focusing on digital technologies, focusing on developing innovative products to meet the changing requirements of the power generation industry, investing in eco-efficient solutions for minimizing the impact on the environment, deploying Internet of Things (IoT) enabled switchgears for automated operations and energy management, promoting automated switchgear within power generation and transmission industries to adopt smart grid operations, and developing and promoting specialized switchgear for critical industries. Player-adopted strategies in the switchgear market include strengthening presence through contracts and agreements, upgrading manufacturing facilities to increase the production, and boosting business through acquisitions and mergers.

To take advantage of the opportunities, the switchgear companies need to focus on developing smart switchgears, focus on developing digital switchgears, take initiatives to use renewable energy, focus on expanding manufacturing base in low-cost countries, set up authorized distribution channel, scale up through collaborations, offer competitive pricing, use direct-to-consumer (DTC) advertising, organizing events and campaigns, increasing visibility through a high-performance website and focus on fast-growing end-use industries.

CHAPTER -3

REVIEW OF LITERATURE

3.1 BRIEF THEORETICAL CONSTRUCT RELATED TO THE PROBLEM

MEANING OF CASH

Cash is one of the most important aspects of running any large or small business. It is one of the single most important reasons why many businesses fail regardless of how good the business is. The physical aspect of cash can be any currency, coins on hand, bank balances, negotiable money and so forth. Managing cash flow therefore is vitally important in the soft running, survival and success of a business.

The cash flow management process is used to accomplish effectiveness and efficiency in collection and payment of cash during the operations of a business. The process of cash flow management entails maximizing inflows and minimizing outflows. The management of cash flows is made effective through speeding up cash collection and delaying cash payments which gives the company a significant amount of free cash which can be utilized in operations and investments.

Motives for Holding Cash

Cash is known as most liquid and less productive assets of a firm. If cash remains idle, earns nothing but involves cost in terms of interest payable to finance it. Although cash is least productive current assets, firm should hold certain amount of cash for marketable securities. Mainly, there are three motives for holding cash.

(a) Transaction Motive of Holding Cash

Transaction motive refers to the need to hold cash to satisfy normal disbursement collection activities associated with a firm's ongoing operation. Transaction means the act of giving and taking of cash or kinds in the ordinary course of business. A firm frequently involves in purchase and sales of goods or services. A firm should make payment in terms of cash for the purchase of goods, payment of salary, wages, rent, interest, tax, insurance, dividend and so on. A firm also receives cash in terms of sales revenue, interest on loan, return on investments made outside the firm and so on. If these receipts and payments were perfectly synchronized, a firm would not have to hold cash for transaction motive. But in real, cash inflows and outflows cannot be matched exactly. Sometimes receipts of cash exceed the disbursement whereas at other time disbursement exceeds the receipt. Because of this reason,

if disbursement exceeds the receipt, a firm should hold certain level of cash to meet current payment of cash in excess of its receipt during the period.

(b) Precautionary Motive of Holding Cash

Precautionary motive refers to hold cash as a safety margin to act as a financial reserve. A firmn should hold some cash for the payment of unpredictable or unanticipated events. A firm may have to face emergencies such as strikes and lock-up from employees, increase in cost of raw materials, funds and labour, fall in market demand and so on. These emergencies also bound a firm to hold certain level of cash. But how much cash is held against these emergencies depends on the degree of predictability associated with future cash flows. If there is high degree of predictability, less cash balance is sufficient. Some firms may have strong borrowing capacity at a very short notice, so that they can borrow at the time when emergencies occur. Such a firm may hold very minimum amount of cash for this motive.

(c) Speculative Motive of Holding Cash

The speculative motive refers to the need to hold cash in order to be able to take advantage of bargain purchases that might arise, attractive interest rates and favourable exchange rate fluctuations. Some firms hold cash in excess than transaction and precautionary needs to involve in speculation. Speculative needs for holding cash require that a firm possibly may have some profitable opportunities to exploit, which are out of the normal course of business. These opportunities arise in conditions, when price of raw material is expected to fall, when interest rate on borrowed funds are expected to decline and purchase of inventory occurs at reduced price on immediate cash payment.

CASH MANAGEMENT

Cash Management refers to the collection, handling, control and investment of the organizational cash and cash equivalents, to ensure optimum utilization of the firm's liquid resources. Money is the lifeline of the business and therefore it is essential to maintain a sound cash flow position in the organization. It is a process in which the cash is collected, disbursed and invested so that there is maximum liquidity. Cash management also helps in maximizing profitability by optimizing cash utilization. Its also helps in creating provisions for future contingencies such as economic slowdown, bad debts, etc

In corporate cash management, also often known as treasury management, business managers, corporate treasurers, and chief financial officers are typically the main individuals responsible for overall cash management strategies, cash related responsibilities, and stability analysis. Many companies may outsource part or all of their cash management responsibilities to different service providers. Regardless, there are several key metrics that are monitored and analyzed by cash management executives on a daily, monthly, quarterly, and annual basis.

The cash flow statement is a central component of corporate cash flow management. While it is often transparently reported to stakeholders on a quarterly basis, parts of it are usually maintained and tracked internally on a daily basis. The cash flow statement comprehensively records all of a business's cash flows. It includes cash received from accounts receivable, cash paid for accounts payable, cash paid for investing, and cash paid for financing.

Types of cash management

- **Cash Flow from Operating Activities:** It is found on the cash flow statement of an organization and it does not include cash flow from investing.
- **Free Cash Flow to Equity:** Free Cash Flow to Equity represents the amount of cash that is available after the capital is reinvested.
- **Free Cash Flow to the Firm:** It is used for the purpose of valuation and financial modeling.
- **The Net Change in Cash:** It refers to the movement in the total amount of cash flow from a particular accounting period to another.

Different types of cash management tools

- Short term instruments such as Money Market instruments and mutual funds, Treasury Bills, Certificate of deposit (CD), etc.
- Checking account.
- Savings account.
- Long term low-risk savings instrument.

GENERAL PRINCIPLES OF CASH MANAGEMENT

Harry Gross has suggested certain general principles of cash management that, essentially add efficiency to cash management. These principles reflecting cause and effect relationship having universal applications give a scientific outlook to the subject of cash management. While, the application of these principles in accordance with the changing conditions and business environment requiring high degree of skill and tact which places cash management in the category of art. Thus, we can say that cash management like any othersubject of management is both science and art for it has well-established principles capable of being skillfully modified as per the requirements. The principles of management are follows as –

a) Determinable Variations of Cash Needs: A reasonable portion of funds, in the form of cash is required to be kept aside to overcome the period anticipated as the period of cash deficit. This period may either be short and temporary or last for a longer duration of time. Normal and regular payment of cash leads to small reductions in the cash balance at periodic intervals. Making this payment to different employees on different days of a week can equalize these reductions. Another technique for balancing the level of cash is to schedule cash disbursements to creditors during that period when accounts receivables collected amounts to a large sum but without putting the goodwill at stake.

b) Contingency Cash Requirement: There may arise certain instances, which fall beyond the forecast of the management. These constitute unforeseen calamities, which are too difficult to be provided for in the normal course of the business. Such contingencies always demand for special cash requirements that was not estimated and provided for in the cash budget. Rejections of wholesale product, large amount of bad debts, strikes, lockouts etc. are a few among these contingencies. Only a prior experience and investigation of other similar companies prove helpful as a customary practice. A practical procedure is to protect the business from such calamities like bad-debt losses, fire etc. by way of insurance coverage.

(c) Availability of External Cash: Another factor that is of great importance to the cash management is the availability of funds from outside sources. There resources aid in providing credit facility to the firm, which materialized the firm's objectives of holding minimum cash balance. As such if a firm succeeds in acquiring sufficient funds from external sources like banks or private financers, shareholders, government agencies etc., the need for

rnaintaining cash reserves diminishes.

(d) Maximizing Cash Receipts: Every financial manager aims at making the best possible use of cash receipts. Again, cash receipts if tackled prudently results in minimizing cash requirements of a concern. For this purpose, the comparative cost of granting cash discount to customer and the policy of charging interest expense for borrowing must be evaluated on continuous basis to determine the futility of either of the alternative or both of them during that particular period for maximizing cash receipts. Yet, the under mentioned techniques proved helpful in this context: -

i. Concentration Banking: Under this system, a company establishes banking centers for collection of cash in different areas. Thereby, the company instructs its customers of adjoining areas to send their payments to those centers. The collection amount is then deposited with the local bank by these centers as early as possible. Whereby, the collected funds are transferred to the company's central bank accounts operated by the head office.

ii. Local Box System: Under this system, a company rents out the local post offices boxes of different cities and the customers are asked to \ forward their remittances to it. These remittances are picked by the authorized lock bank from these boxes to be transferred to the company's central bank operated by the head office.

iii. Reviewing Credit Procedures: It aids in determining the impact of slow payers and bad-debtors on cash. The accounts of slow paying customers should be reviewed to determine the volume of cash tied up. Besides this, evaluation of credit policy must also be conducted for introducing essential amendments. As a matter of fact, too strict a credit policy involves rejections of sales. Thus, curtailing the cash inflow.

iv. Minimizing Credit Period: Shortening the terms allowed to the customers would definitely accelerate the cash inflow side-by-side revising the discount offered would prevent the customers from using the credit for financing their own operations profitably.

v. Others: Introducing various procedures for special handling of large to very large remittances or foreign remittances such as, personal pick up of large sum of cash using airmail, special delivery and similar techniques to accelerate such collections.

(e) Minimizing Cash Disbursements: The motive of minimizing cash payments is the ultimate benefit derived from maximizing cash receipts. Cash disbursement can be brought under control by preventing fraudulent practices, serving time draft to creditors of large sum, making staggered payments to creditors and for payrolls etc.

(f) Maximizing Cash Utilization: Although a surplus of cash is a luxury, yet money is costly. Moreover, proper and optimum utilization of cash always makes way for achievement

of the motive of maximizing cash receipts and minimizing cash payments. At times, a concern finds itself with funds in excess of its requirement, which lay idle without bringing any return to it. At the same time, the concern finds it unwise to dispose it, as the concern shall soon need it. In such conditions, efforts should be made in investing these funds in some interest bearing securities.

FUNCTIONS OF CASH MANAGEMENT

"Cash management is concerned with minimizing unproductive cash balances, investing temporarily excess cash advantageously and to make the best possible arrangements for meeting planned and unexpected demands on the firm's cash." Cash Management must aim to reduce the required level of cash but minimize the risk of being unable to discharge claims against the company as they arise. All these aims and motives of cash management largely depend upon the efficient and effective functioning of cash management. Cash management functions can be studied under five heads, namely, cash planning, managing cash flow, controlling cash flow, optimizing the cash level and investing idle cash. All these functions are discussed below in details:

(a) Cash Planning

Good planning is the very foundation of attaining success. For any management decision, planning is the foremost requirement. "Planning is basically an intellectual process, a mental predisposition to do things in an orderly way, to think before acting and to act in the light of facts rather than of a guess." Cash planning is a technique, which comprises of planning for and controlling of cash. It is a management process of forecasting the future need of cash, its available resources and various uses for a specified period. Cash planning, thus, deals at length with formulation of necessary cash policies and procedures in order to carry on business continuously and on sound lines. A good cash planning aims at providing cash, not only for regular but also for irregular and abnormal requirements.

(b) Managing Cash Flows

The heading simply suggests an idea of managing properly the flow of cash coming inside the business i.e. cash inflow and cash moving out of the business i.e. cash outflow. These two are said to be properly managed only, if a firm succeeds in accelerating the rate of cash inflow together with minimizing the cash outflow. As observed expediting collections, avoiding unnecessary inventories, improving control over payments etc. contribute to better

management of cash. Whereby, a business can conserve cash and thereof would require lesser cash balance for its operations.

(c) Controlling the Cash Flows

Forecasting is not an exact science because it is based on certain assumptions. Therefore, cash planning will inevitably be at variance with the results actually obtained. For this reason, control becomes an unavoidable function of cash management. Moreover, cash controlling becomes essential as it increases the availability of usable cash from within the enterprise. As it is obvious that greater the speed of cash flow cycle, I greater would be the number of times a firm can convert its goods and services into cash and so lesser will be the cash requirement to finance the desired volume of business during that period. Furthermore, every enterprise is in possession of some hidden cash, which if traced out substantially decreases the cash requirement of the enterprise.

(d) Optimizing the Cash Level

A financial manager should concentrate on maintaining sound liquidity position i.e. cash level. All his efforts relating to planning, managing and controlling cash should be diverted towards maintaining an optimum level of cash. The foremost need of maintaining optimum level of cash is to meet the necessary requirements and to settle the obligations well in time. Optimization of cash level may be related to establishing equilibrium between risk and the related profit expected to be earned by the company.

(e) Investing Idle Cash

Idle cash or surplus cash refers to the excess of cash inflows over cash outflows, which do not have any specific operations or any other purpose to solve currently. Generally, a firm is required to hold cash for meeting working needs facing contingencies and to maintain as well as develop goodwill of bankers.

Advantages of cash management

- Cash management allows in estimating the cash profits and not just profits from outstanding incomes and credit sales.
- It helps in detecting cash embezzlement.
- It allows in speeding up the working capital cycle.
- It helps in rewarding such debtors that make quicker payments.
- It speeds up the operations of an organization.

Disadvantages of cash management

- Management of the cash requires the specified skills of the person managing it.
- It is a time-consuming process.
- The cost of holding cash is the profit that could have been earned had the funds been put to another use.
- Financial distress usually is a matter of degree, while the declaration of the bank raptly is an indication of this distress in an extreme form. Middle firms of financial distress occur when a firm's cash flow fall below expectations.

Cash management models

Cash management requires a practical approach and a strong base to determine the requirement of cash by the organization to meet its daily expenses. For this purpose, some models were designed to determine the level of money on different parameters.

The two most important models are discussed in detail

The Baumol's EOQ Model

Based on the Economic Order Quantity (EOQ), in the year 1952, William J. Baumol gave the Baumol's EOQ model, which influences the cash management of the company. This model emphasizes on maintaining the optimum cash balance in a year to meet the business expenses on the one hand and grab the profitable investment opportunities on the other side.

The Miller – Orr Model

According to Merton H. Miller and Daniel Orr, Baumol's model only determines the cash withdrawal; however, cash is the most uncertain element of the business.

There may be times when the organization will have surplus cash, thus discouraging withdrawals; instead, it may require to make investments. Therefore, the company needs to decide the return point or the level of money to be maintained, instead of determining the withdrawal amount. This model emphasizes on withdrawing the cash only if the available

fund is below the return point of money whereas investing the surplus amount exceeding this level.

Ratio Analysis

Ratio analysis is the analysis of financial statements with the help of ratios. It includes comparison and interpretation of these ratios and their use for future projection. Ratio analysis does not provide an end in itself, but only a means to understand the financial position and performance of business concerned.

Ratio analysis may be defined as "the process of computing, determining, and presenting the relationship of items and groups of items of financial statements with the help of ratios and interpreting the results there from".

Ratios may be classified in a number of ways keeping in view the particular purpose. Ratios indicating profitability are calculated on the basis of the profit and loss account; those indicating financial position are computed on the basis of the balance sheet and those which show operating efficiency or productivity or effective use of resources are calculated on the basis of figures in the profit and loss account and the balance sheet. This classification is rather crude and unsuitable to determine the profitability and financial position of the business. To achieve this purpose effectively, ratios may be classified as:

I. Liquidity ratios
II. Profitability ratios
III. Turnover ratio
IV. Solvency ratio

➢ Liquidity Ratio

The liquidity ratio expresses a company's ability to repay short-term creditors out of its total cash. It is the result of dividing the total cash by short-term borrowings. It shows the number of times short-term liabilities are covered by cash. If the value is greater than 1.00, it means fully covered. The important liquidity ratios are:

a) Current Ratio

It is also known as 'working capital ratio' and' 2 to 1 ratio'. Current ratio which measures a company's ability to pay its current liabilities with cash generated from its current assets. It equals current assets divided by current liabilities. Current assets are assets that are expected to be converted to cash within normal operating cycle, or one year. Examples of current assets include cash and cash equivalents, marketable securities, short-term investments, accounts receivable, short-term portion of notes receivable, inventories and short-term prepayments. Current liabilities are obligations that require settlement within normal operating cycle or next 12 months. Examples of current liabilities include accounts payable, salaries and wages payable, current tax payable, sales tax payable, accrued expenses, etc.

In a sound business a current ratio of 2:1 is considered as ideal one. It is an index of the firm's financial stability. A high ratio indicates sound solvency position and a low ratio indicates inadequate working capital.

Current ratio = current asset/ current liability

b) Quick Ratio (Acid test ratio)

The quick ratio is an indicator of a company's short-term liquidity position and measures a company's ability to meet its short-term obligations with its most liquid assets. Since it indicates the company's ability to instantly use its near-cash assets (assets that can be converted quickly to cash) to pay down its current liabilities, it is also called the acid test ratio. Quick ratio is considered a more conservative measure than the current ratio, which includes all current assets as coverage for current liabilities.

An acid test ratio of 1:1 is considered satisfactory as a firm can easily meet all its current liabilities. The higher the ratio result, the better a company's liquidity and financial health; the lower the ratio, the more likely the company will struggle with paying debts.

Quick ratio= quick asset/ current liability

c) Absolute Liquidity Ratio

Absolute Liquid Ratio is a type of liquidity ratio that is calculated to analyze the short term solvency or financial position of the firm. It is calculated to exclude the receivables from the current and liquid assets and to know about the absolute liquid assets. Although receivables, debtors and bills receivables are generally more liquid than inventories, yet there may be doubts regarding their realization into cash immediately or on time as there are the chances of bad debts. To exclude this possibility, absolute ratio is calculated. The absolute liquid ratio is also known as 'Cash ratio' or 'cash position ratio'.

A ratio of 0.5:1 is recommended to ensure liquidity. This test is more vigorous measure of a firm's liquidity position.

Cash ratio= cash balance + marketable inventories /

current liabilities

➢ Solvency Ratios:

The solvency ratio is a key metric used to measure an enterprise's ability to meet its debt obligations and is used often by prospective business lenders. The solvency ratio indicates whether a company's cash flow is sufficient to meet its short-and long-term liabilities. The lower a company's solvency ratio, the greater the probability that it will default on its debt obligations. The important solvency ratios are:

Solvency ratio = Total liabilities to outsiders

Assets

a) Equity Ratio

The debt-to-equity (D/E) ratio is calculated by dividing a company's total liabilities by its shareholder equity. These numbers are available on the balance sheet of a company's financial statements. The ratio is used to evaluate a company's financial leverages. The D/E ratio is an important metric used in corporate finance. It is a measure of the degree to which a company is financing its operations through debt versus wholly-owned funds. More specifically, it reflects the ability of shareholder equity to cover all outstanding debts in the event of a business downturn.

An acceptable norm for this ratio is considered to be 2:1. A high ratio shows that the claims of creditors are greater than those of owners. A very high ratio is unfavorable for the firm. High debt companies (highly geared or leveraged) are able to borrow funds on very restrictive term and conditions. A low debt-equity ratio implies a greater claim of owners than creditors.

Debt –to-equity ratios= Total Liabilities/share holders fund

b) Interest Coverage Ratio

This ratio is also known as debt service ratio or debt service coverage ratio. This ratio relates the fixed interest charges to the income earned by the business. It indicates whether the business has earned sufficient profits to pay periodically the interest charges. It is calculated by using the following formula.

Interest coverage ratio = net profit before interest and tax/ fixed interest charges

c) Proprietary Ratio

This ratio relates to the shareholders fund to total assets. It shows long term solvency of the business. Proprietary ratio shows the financial strength of the company. It helps the creditors

to find out the proportion of shareholders fund in total assets. The ratio is calculated by using the following formula.

Proprietary ratio = Shareholders funds/ total assets

d) Fixed Asset To Net Worth Ratio

This ratio shoes the relationship between fixed assets and shareholders fund. The purpose of this ratio is to find out the percentage of the owners fund invested in fixed assets. If the ratio is greater than one, it means that creditor's funds have been used to acquire a part of the fixed assets. The ratio is calculated by using the following formula.

Fixed asset to net worth ratio = Fixed assets/ Shareholder's fund

➢ Profitability Ratios

These ratios are based on the basis idea that a business unit should earn sufficient profit on each rupee of sales. If adequate profits are not earned on sales, difficulty will be experienced in meeting the operating expenses and no profit will be left for the owners of the business unit. Profitability ratios related to sales can be as follows:

a) Gross Profit Ratio

This ratio indicates the difference between sales and direct costs. It explains the relationship between gross profit and net sales. This ratio tells gross margin on trading.

Gross profit ratio = Gross profit*100 /Net sales

b) Net Profit Ratio

This ratio is also called as the net profit to sales or net margin ratio. Net profit ratio is used to measure the overall profitability and hence it is very useful to proprietors. It is an index of efficiency and profitability of the business.

Net profit ratio = Net profit *100/Sales

c) Return On Capital Employed

This ratio is also known as Return on Investment (ROI). The primary objective of making investment in any business is to obtain satisfactory return on capital invested. It indicates the return on capital employed in the business and it can be used to show the efficiency of the business as a whole.

$$\text{Return on capital employed} = \frac{\text{Net profit (before interest, tax \& dividend) *100}}{\text{Net capital employed}}$$

d) Return On Shareholders' Fund

This ratio shows the rate of profit on shareholder's fund. It relates the profit available for the share holders to their total investment. It is also known as 'profit on net worth ratio'.

$$\text{Return on shareholder's fund} = \frac{\text{Net profit (after interest \& tax)*100}}{\text{Shareholder's fund}}$$

e) Return On Total Assets

This ratio measures the profitability of investment. It is also known as return on gross capital employed.

Return on total assets = Net profit*100 /Total assets

➢ Turnover (or performance or activity) Ratios

The Turnover Ratios measure the efficiency of investments made by the firm in the form of revenues and the cost of sale generated during a period of time. These ratios show the relationship between the revenues or cost of sales generated due to the investment activities undertaken. The following are the important turnover ratios usually calculated by a concern

a) Working Capital Turnover Ratio

This ratio reflects the turnover of the firm's net working capital in the course of the year. It is a good measure of over-trading and under- trading.

Working capital turnover ratio = Net sales/Net working capital

b) Inventory Turnover Ratio

This ratio indicates whether investment in inventory is efficiently used or not. It therefore, explains whether investment in inventories is within limits or not. It also measures the effectiveness of the firm's sales efforts.

Inventory turnover ratio = Cost of goods sold/Average stock

c) Current Asset Turnover Ratio

Current asset turnover ratio indicates that the current assets are turned over in the form of sales more number of times. A high current assets turnover ratio indicates the capability of

the organization to achieve maximum sales with the minimum investment in current assets. Higher the current ratio better will be the situation.

Current asset turnover ratio = Net sales/Current assets

d) Debtors Turnover Ratio

The ratio indicates the rate at which the money is being collected on account of credit sales. In other words, the average collection period can be ascertained.

Debtors turnover ratio = Net credit sales/Average accounts receivable

e) Creditors Turnover Ratio

This ratio indicates the number of times the accounts payable rotate in a year. It signifies the credit period enjoyed by the firm in paying its creditors. Creditors turnover ratio shows the relationship between net credit purchases for the whole year and accounts payable .

Creditors turnover ratio = Net credit purchase /Average accounts payable

3.1.2CASH BUDGET

A cash budget deals with the expected cash inflows and cash outflows during a specified period of time for which the budget is prepared. The budget officer forecasts the cash flows and cash requirements during budget period which must synchronize with the periods of other functional budgets as most of the information for cash budget are derived from other budgets. The cash budget enables the management to arrange the deficit cash balance well in time for maintaining operational efficiency of the enterprise. Similarly, surplus cash balance as shown in the budget at the end of any period can be invested in temporary investments.

Thus cash planning in an enterprise is effective only when cash budget is in operation. This budget is prepared by adding expected incomes with opening cash balance and deducting desired payments. The difference of cash receipts and cash payments for a period is either positive or negative, which is carried to next period.

Methods of preparation of cash budget

A cash budget may be prepared by using anyone of the following methods:

(1) Receipts and payments method

(2) Balance sheet forecast method

(3) Profit forecast method

(1)Receipts And Payments Method

According to this method, cash budget includes all the cash receipts whether they are on revenue account or capital account. Similarly all expected capital and revenue expenditure are brought in a cash budget. The income earned but not received and expenditure due but not paid are excluded from the cash budget. Thus a cash budget is a sort of cash account which records cash receipts and cash payments and shows expected cash balance at the end the budget period. The management can forecast payments on account of capital expenditure, tax, dividend, etc. The difference of cash receipts and cash payments for a period is either positive or negative, which is carried to next period.

(2)Balance Sheet Forecast Method

Under this method a projected Balance sheet is prepared in which cash balance is not an estimated item but a difference between total projected assets and total estimated liabilities. In other words, the excess of projected assets over projected liabilities represents cash balance if the liabilities are more than the assets, the balance shows the overdraft.

(3) Profit Forecast Method

Under this method the profit as shown in the profit and loss account prepared in the conventional manner forms the basis for cash forecast. The profit is adjusted by adding back to it the non-cash items such as depreciation, outstanding expenses, other provisions etc. The

other items which increase the total cash inflows are the increase in share capital, debenture and loans, current liabilities and decrease in fixed assets, debtors and stocks etc. Out of the total cashinflows calculated as above, the items which results in cash outflow are subtracted to arrive at the cash position at the end of the period. The items which reduce the cash position are accrued incomes, advance payments, dividend payment, redemption of debentures and loans, decrease in creditors, payment for fixed assets, increase in debtors and stock etc.

3.1.3 CASH FLOW STATEMENT

Cash flow statement is an analytical statement prepared by the management accountant to study the impact of the business transactions of a particular period on the most liquid form of asset, namely, cash. A close scrutiny of the financial statements for a period reveals the nature and sources of inflows and outflows of cash. It also helps the management in making plans for the immediate future.

This statement will commence with the opening cash and bank balances and to this are added the amounts of cash received such as issue of shares, issue of debentures, receipts from debtors and sale of assets. From the total, the following items are deducted representing payments to creditors, payment of liabilities, payment of expenses, purchases of assets and payment of taxation and dividends. The balance will represent the closing cash and bank balances if the figures of purchases, sales and creditors are not available, it is usual in prepare the statements in the same way as the Sources and Application of Funds. Individual increase or decrease in each of the current assets and current liabilities is shown in the statement. Moreover, the movement of various assets and liabilities are shown in this statement.

The statement of cash flow serves a number of objectives which are as follows :

- Cash flow statement aims at highlighting the cash generated from operating activities.
- Cash flow statement helps in planning the repayment of loan schedule and replacement of fixed assets, etc.
- Cash is the centre of all financial decisions. It is used as the basis for the projection of future investing and financing plans of the enterprise.
- Cash flow statement helps to ascertain the liquid position of the firm in a better manner. Banks and financial institutions mostly prefer cash flow statement to analyze liquidity of the borrowing firm.

- Cash flow Statement helps in efficient and effective management of cash

The management generally looks into cash flow statements to understand the internally generated cash which is best utilized for payment of dividends. Cash Flow Statement based on AS-3 (revised) presents separately cash generated and used in operating, investing and financing activities. It is very useful in the evaluation of cash position of a firm. Cash Flows are inflows and outflows of cash and cash equivalents. The statement of cash flow shows three main categories of cash inflows and cash outflows, namely: operating, investing and financing activities.

a) Operating Activities

Operating activities are principal revenue producing activities of an enterprise. These activities result from the transactions and events that enter into the determination of net profit or loss. A few items of cash flows from operating activities are:

- Cash receipts from the sale of goods and the rendering of services.
- Cash receipts from royalties, fees, commission and other revenue.
- Cash payments to suppliers for goods and services
- Cash payments to and on behalf of employees
- Cash payments to or refund of income tax unless they are specifically connected with investing and financing activities.
- Cash receipts and payments relating to future contracts, forward contracts and option contracts
- Cash receipts and payments resulting from purchase or sale of trading securities.

b) Investing Activities

Investing activities include the acquisition and disposal of long term assets and other investments not included in cash equivalents. Investing Activities refer to transactions that affect the purchase and sale of fixed or long term assets and investments. Examples of cash flow arising from Investing activities are

- Cash payments to purchase fixed assets
- Cash receipts from sale of fixed assets
- Cash payments to acquire shares debentures and other debt instruments of other enterprises

- Cash receipts on account of interest and dividends on investment
- Cash advances and loans made to third parties
- Cash receipts from repayment of advances and loans

c) Financing Activities

Financing activities are activities that result in change in the size and composition of the owner's capital (including Preference share capital in the case of a company) and borrowings of the enterprise.

Cash Inflow from financing activities are;

- Issue of Equity and preference share capital for cash only.
- Issue of Debentures, Bonds and long-term note for cash only.

Cash outflow from financing activities are:

- Payment of dividends to shareholders.
- Redemption or repayment of loans i.e. debentures and bonds.
- Redemption of preference share capital.
- Buy back of equity shares.

3.1.4 CORRELATION

The data involving two associated variables is known as bivariate data. In a bivariate data the study of the degree of relationship (magnitude) between the variables is known as correlation analysis. In correlation analysis it is assumed that the two variables are linearly correlated. The linear correlation between 2 variables can be measured using "KarlPearson'scorrelation coefficient. The equation is calculated by considering the two variables as X and Y When comparing the correlation between two items, one item is called the "dependent" item and the other is "independent" item. The goal is to see if a change in the independent item will result in a change in the dependent item will result in a change in the dependent item. A correlation coefficient is a way to put a value to the relationship. Correlation coefficients have a value of between -1 and 1, A "0" means there is no relationship between the variables at all, while -1 or 1 means that there is a perfect negative or positive correlation (negative or positive correlation here refers to the type of graphs the relationship will produce)

Correlation is useful because if you can find out what relationship variables have, you can make predictions about future behavior. Knowing what the future holds is very important in the social sciences like government and health care. Business also uses these statistics for budgets and business plans.

$$r = \frac{n\Sigma xy - \Sigma x\,\Sigma y}{\sqrt{n\Sigma x^2 - (\Sigma x)^2}\ \sqrt{n\Sigma y^2 - (\Sigma y)^2}}$$

Where, X = mean of X variable

Y = mean of Y variable

3.1.5 TREND ANALYSIS

Trend analysis is a technique of studying financial statements of a company over a number of years. Under this method, a representative year is selected as the base year and the values of items in the base year are assumed to be 100. Then the relationship of each item in the subsequent years is expressed as a percentage of the same item in the base year. This means when an item is expressed as 100, all other values expressed in term of the base year will reflect in trend, upward or downward, in relation to 100.

Trend Percentage =Current year/Base year * 100

3.2 AN OVERVIEW OF EARLIER STUDIES

Management of cash one of the most important areas in the day-to-day management of the firms deals with the management of working capital. A cash flow statement is an important indicator of financial health because it is possible for a company to show profits while not having enough cash to sustain operations. It is a financial report that shows to the user the source of a company's cash and how it was spent over a specific period of time.

F.M Wiiker and RE Brayshar (2000): Cash management is identified as the efficient collection and payments of cash both inside the group and the third parties which should be a concern of the treasury departments. This treasury department is concerned with detail of receivables and payables, he also added that this treasury department is concerned with revising the policies of cash management in the firm and such policies include what should be the debt collection period, payment period, discount on receivables and how much surplus fund should be invested .

Atrill P. (2004): Cash is one of the most important aspects of running any large or small business. It is one of the single most important reasons why many businesses fail regardless of how good the business is. The physical aspect of cash can be any currency, coins on hand, bank balances, negotiable money and so forth. Managing cash flow therefore is vitally important in the soft running, survival and success of a business.

Davidson (1992): Cash management is a term which refers to the collection concentration and disbursement of cash. It encompasses a company's level of liquidity , management of cash balance and short term strategies.

Ranson (2005): Cash management as a set of guidelines established by a firm to ensure that it has optimal cash balance at any time. He further clarified that firms should seek to match the cash receipts and disbursements so that there is no redundant cash balance. In this argument the firm should aim at zero cash balance is cash inflows have covered the cash out flows.

Pindado (2001): Argues that basic cash management refers to that part of the working capital that makes up the optimal level needed by a company treasury. However, if the profit opportunities available in the process of cash flow creation are to be maximized, this scope

must be broadened to take in more operational decisions, since optimum cash levels are influenced by other factors outside the restrictive concept of "treasury".

Maseda & Iturralde (2001): Linking these concepts with the concepts of monetary theory reveals that the initial reasons for cash management were transaction and precaution, and those reasons were then joined by speculation, taking it closer to the overall concept of treasury management in the broad sense of the term

Ryan (2007): A cash flow statement counters the ambiguity regarding a company's solvency that various accrual accounting measures create. It also categorizes the sources and uses of cash to provide the reader with an understanding of the amount of cash a company generates and uses in its operations, as opposed to the amount of cash provided by sources outside the company, such as borrowed funds or funds from stockholders. The cash flow statement also tells the reader how much money was spent for items that do not appear on the income statement, such as loan repayments, long-term asset purchases, and payment of cash dividends.

3.3 UNIQUENESS OF REAEARCH STUDY

This study, an analysis of Cash Management of Aluminium Industries Ltd (ALIND). The company is an Indian Non-Government Company which offers production and distribution of wide variety of switch gear products to all over India. In this analysis various tools can be used to measure liquidity position of the firm. Cash ratios are powerful tools that assist a management decipher fact out of figures, know where to concentrate efforts, ascertain quality of report, evaluate efficiency of cash utilization and future potentials, assets credits worthiness for loans credits, and inter firm comparison to bring into light management competitiveness. Trend analysis is very useful in financial analysis and help to making better decisions in the organization. Through cash budget, the estimation of future cash position of the company can made. Correlation provides a statistical measure of the relationship between pairs of variables. The correlation process can be used to assist in basic business and financial analyses, providing its users with more informed decision making processes.

This evaluation proved a great deal to the management to make a decision on the regulation of the funds to increase the sales and bring profit to the company.

CHAPTER 4

METHODOLOGY OF THE STUDY

4.1 RESEARCH APPROACH AND DESIGN

Here, research is descriptive in nature. Because the research is based on what is existing in present. Descriptive research is an important type of research. It is very useful when conducting research whose aim is to identify characteristics, frequencies, trends, correlations, and categories.

This research method takes a problem with little to no relevant information and gives it a befitting description using qualitative and quantitative research methods. Descriptive research aims to accurately describe a research problem.

The research approach is analytical in nature. An analytical approach is the use of an appropriate process to break a problem down into the elements necessary to solve it. Each element becomes a smaller and easier problem to solve.

This study consist of following steps;

- The research include figurative and diagrammatic interpretation for the ease of comparison.
- Understanding of aluminium and switch gear industry in global and domestic scenario.
- Evaluating ALIND position in aluminium and switch gear industry.

4.2 SOURCES OF ONLINE DATA

For conducting the research secondary sources of data are utilized.

- Company website
- Online journal
- Online magazine
- Annual report
- Articles and journals
- Previous research studies

- **Period of The Study:**

The research work covers a period of total 2 months from 1st April 2021 to 30th May 2021.

4.3 DATA ANALYSIS TOOLS

The analysis of the financial statement was done with help of the following tools:

- Ratio analysis
- Correlation
- Trend analysis
- Cash budget analysis

4.4 REPORT STRUCTURE

First chapter: Deals with the background of the study, statement of the problem, relevance& scope of the study, objectives of the study. It gives a clear idea about the over all nature of the study.

Second chapter: Deals with the business process of the industry, market demand and supply contribution to GDP-revenue generation, level and type of competition – firms operating in the industry, pricing strategies in the industry, prospects and challenges of the industry, key drivers of the industry. It gives a clear idea about the firm operating in the industry.

Third chapter: Deals with the brief theoretical construct related to the problem, an over view of earlier studies, uniqueness of research study.

Fourth chapter: It includes research approach and design, sources on online data, sampling design, data analysis tools, report structure and limitations of the study.

Fifth chapter: It includes data analysis, interpretation & inference.

Sixth chapter: Findings of the study.

Seventh chapter: Conclusion of the study.

4.5 LIMITATIONS OF THE STUDY

- The present study is based on the information obtained from the internet so the accuracy of data may not be relevant.
- The study is confined to the financial statement analysis of the company for a period of five years only and hence, the analysis and findings of the study will be relevant only for the reference period.
- Lack of availability of information because in a competitive business environment no company is ready to reveal their confidential data which may affect the overall operations of the firm.
- Lack of availability of information because of outspread of pandemic.

CHAPTER 5

DATA ANAYSIS, INTERPRETATION & INFERENCE

DATA ANALYSIS

Data analysis is defined as a process of cleaning, transforming, and modeling data to discover useful information for business decision-making. The purpose of Data Analysis is to extract useful information from data and taking the decision based upon the data analysis.

Data analysis is the process of cleaning, analyzing, interpreting, and visualizing data to discover valuable insights that drive smarter and more effective business decisions. Data analysis tools are used to extract useful information from business data, and help make the data analysis process easier.

5.1 RATIO ANALYSIS

Ratio analysis is one of the most powerful tools of financial analysis. It is a yardstick which measures relationship between variables. In layman's terms a ratio represents for every amount one thing how much there is of another thing.

Ratio analysis refers to the analysis of various pieces of financial information in the financial statements of a business. They are mainly used by external analysts to determine various aspects of a business, such as its profitability, liquidity, and solvency.

Ratio analysis is the comparison of line items in the financial statements of a business. Ratio analysis is used to evaluate a number of issues with an entity, such as its liquidity, efficiency of operations, and profitability. This type of analysis is particularly useful to analysts outside of a business, since their primary source of information about an organization is its financial statements. Ratio analysis is less useful to corporate insiders, who have better access to more detailed operational information about the organization.

Ratio analysis is a widely- used tool of financial analysis. It can be used to compare the risk and return relationship of firms of different sizes. It is defined as the systematic use of ratio interprets the financial statements so that the strength and weakness of a firm as well as its historical performance and current financial condition can be determined. The term ratio to the numerical or quantitative relationship between two items.

5.1.1 LIQUIDITY RATIO

a) CURRENT RATIO

It is also known as ‘working capital ratio’ and’ 2 to 1 ratio’. Current ratio which measures a company's ability to pay its current liabilities with cash generated from its current assets. It equals current assets divided by current liabilities. Current assets are assets that are expected to be converted to cash within normal operating cycle, or one year.

CURRENT RATIO = CURRENT ASSET / CURRENT LIABILITIES

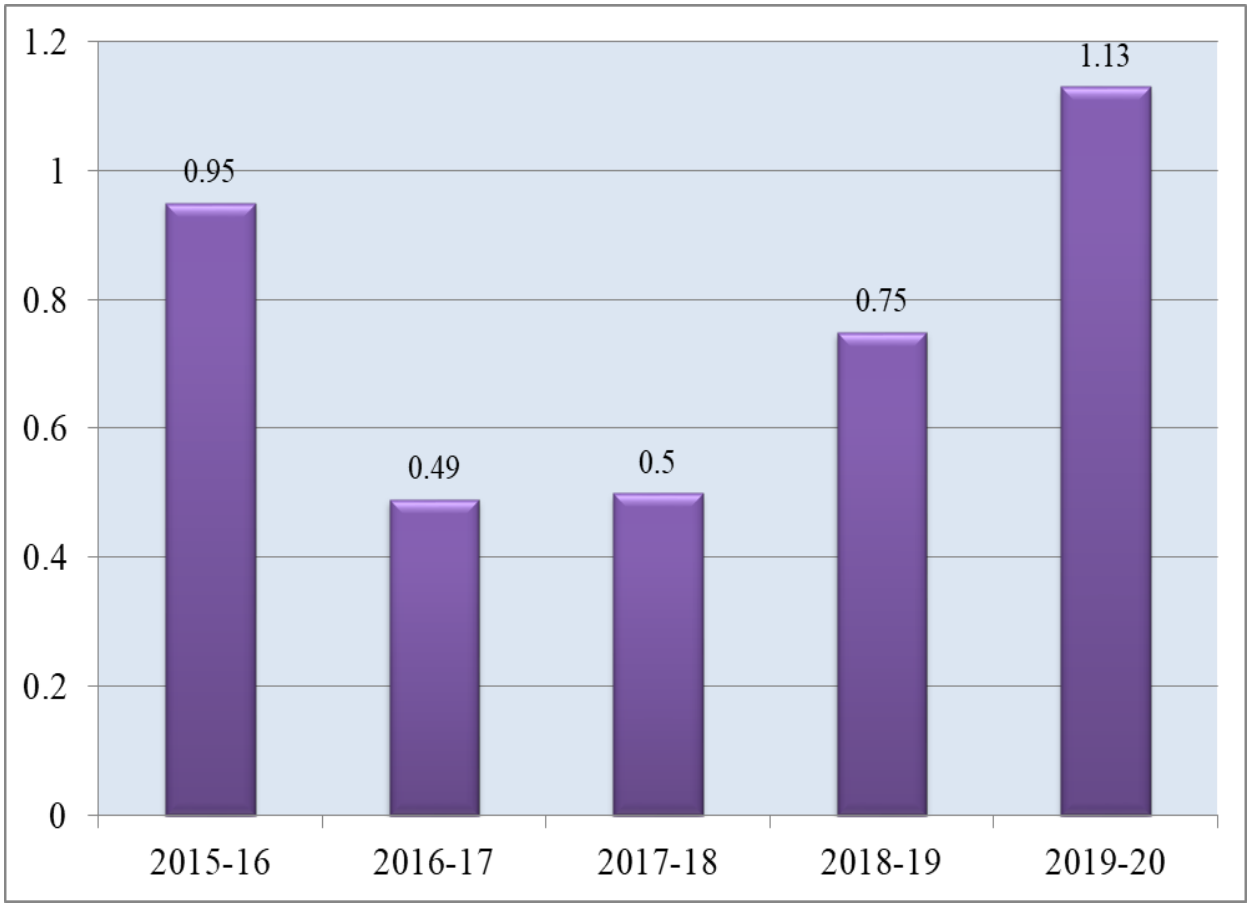
TABLE 5.1

TABLE SHOWING CURRENT RATIO

YEAR	CURRENT ASSET	CURRENT LIABILITIES	CURRENT RATIO
2015-2016	138081059	274406768	0.95
2016-2017	144712114	290391023	0.49
2017-2018	195360142	385621984	0.50
2018-2019	374369007	494395925	0.75
2019-2020	528577634	463753800	1.13
Average Ratio			0.76

FIG 5.1

GRAPH SHOWING CURRENT RATIO



INTERPRETATION

The table & graph represents the current ratio for a period of 2015-2020. The average current ratio of Alind Switch Gear Limited, Mannar is 0.76. Current ratio of the company is fluctuating from 2015-2020. In the financial year 2019-2020 there is a increase in the current ratio. The ideal current ratio is 2:1. The company position is not good as per the ideal ratio. The higher ratio is 1.13, that is in the financial year 2019-2020 due to increase in current assets (Inventories, Trade receivables and Sundry Debtor) and the lowest ratio was in the year 2017-18 that is 0.79 due to decrease in current assets (Inventories, Trade receivables and cash and bank). If we compare average current ratio with standard current ratio the company position is not satisfactory.

b) QUICK RATIO

The quick ratio is an indicator of a company's short-term liquidity position and measures a company's ability to meet its short-term obligations with its most liquid assets. Quick ratio is considered a more conservative measure than the current ratio, which includes all current assets as coverage for current liabilities.

QUICK RATIO = QUICK ASSET / CURRENT LIABILITIES

QUICK ASSET= CURRENT ASSET – INVENTORIES

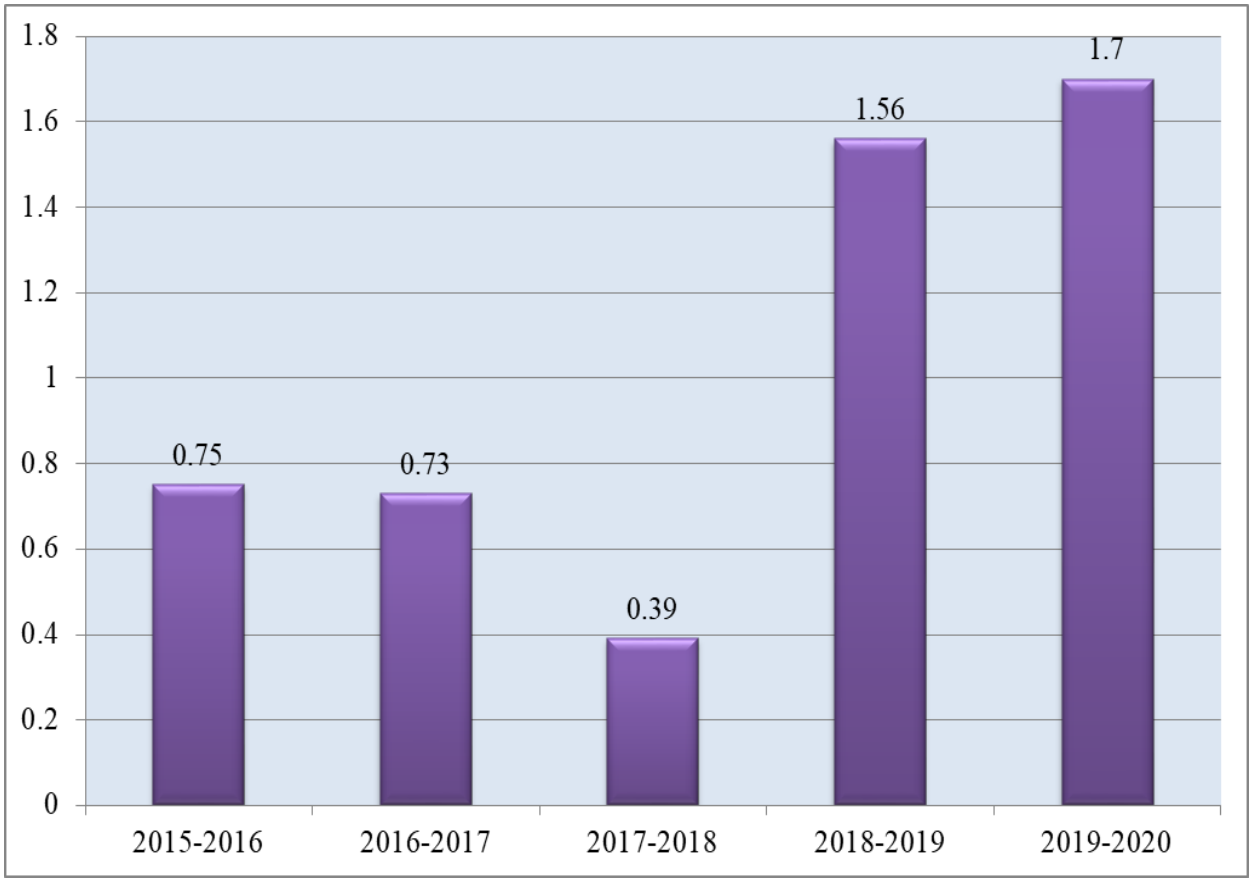
TABLE 5.2

TABLE SHOWING QUICK RATIO

YEAR	QUICK ASSET	CURRENT LIABILITIES	QUICK RATIO
2015-2016	207712921	274406768	0.75
2016-2017	213929017	290391023	0.73
2017-2018	153581919	385621984	0.39
2018-2019	774294988	494395925	1.56
2019-2020	791598416	463753800	1.70
Average Ratio			1.02

FIG 5.2

GRAPH SHOWING QUICK RATIO



INTERPRETATION

The table & graph represents the quick ratio for a period of 2015-2020 and average the quick ratio is 1.02. The ideal quick ratio is 1:1. Highest quick ratio was in the period 2019-20 that is 1.70 because of increase in quick assets and the lowest ratio was in the financial year 2017-18 that is 0.39 due to decrease in quick assets. The table shows that the quick ratio of Alind Switch Gear Limited, Mannar is satisfactory even though the company fails to meet all its current liabilities.

c) ABSOLUTE LIQUIDITY RATIO

Absolute Liquid Ratio is a type of liquidity ratio that is calculated to analyze the short term solvency or financial position of the firm. It is calculated to exclude the receivables from the current and liquid assets and to know about the absolute liquid assets.

ABSOLUTE LIQUIDITY RATIO= LIQUID ASSET / CURRENT LIABILITY

ABSOLUTE LIQUID ASSET = CASH IN HAND / CASH AT BANK

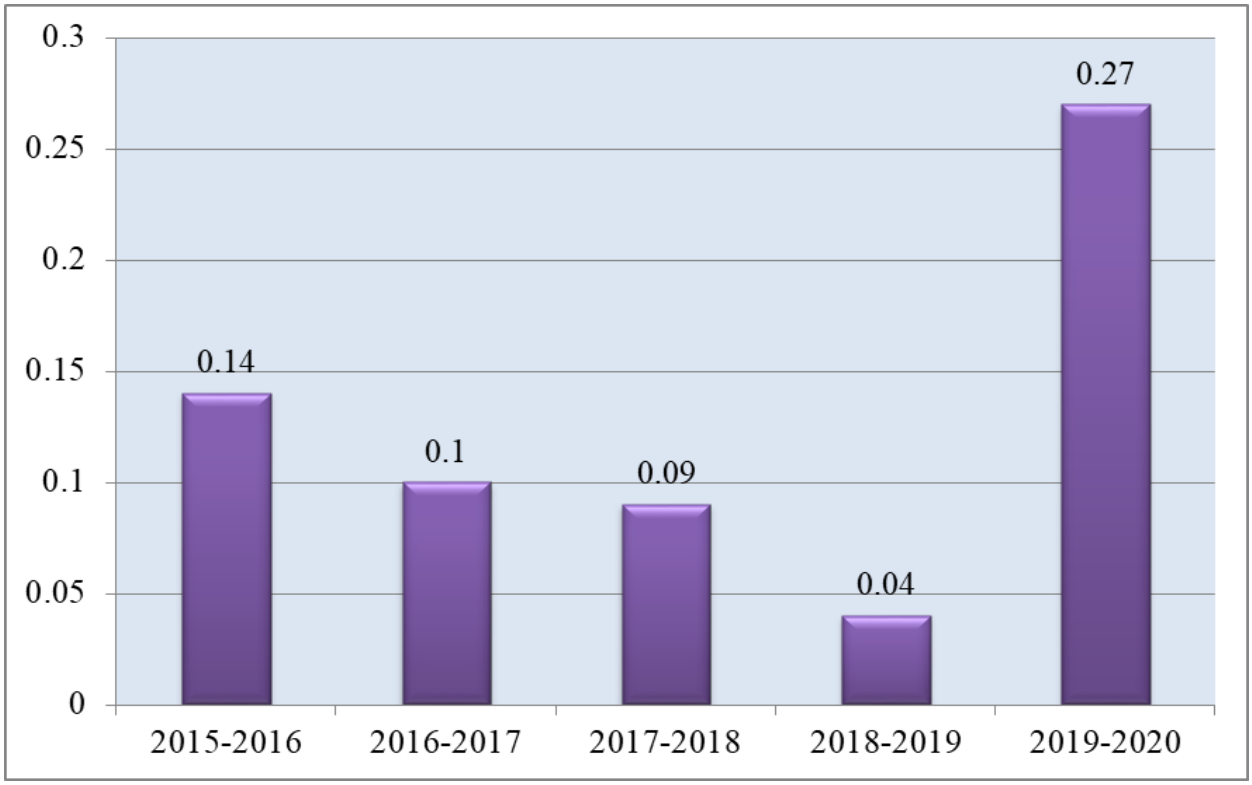
TABLE 5.3

TABLE SHOWING ABSOLUTE LIQUIDITY RATIO

YEAR	CASH AND BANK BALANCE	CURRENT LIABILITIES	ABSOLUTE LIQUID RATIO
2015-2016	40569558	274406768	0.14
2016-2017	30983501	290391023	0.10
2017-2018	35958750	385621984	0.09
2018-2019	22016186	494395925	0.04
2019-2020	126850318	463753800	0.27
Average Ratio			0.12

FIG 5.3

GRAPH SHOWING ABSOLUTE LIQUIDITY RATIO



INTERPRETATION

The table & graph represents the absolute liquidity ratio for a period of 2015-2020 and the average cash position ratio is 0.12. A standard of 0.5:1 is considered as an acceptable norm for this ratio. Highest ratio was in the period 2019-20 that is 0.27. Because of increase in liquid assets and the lowest ratio was in the financial year 2016-17 that is 0.1 due to decrease in liquid assets. The liquidity position of a Alind Switch Gear Limited, Mannar is not satisfactory.

5.1.2 SOLVENCY RATIO

The solvency ratio is a key metric used to measure an enterprise's ability to meet its debt obligations and is used often by prospective business lenders. The solvency ratio indicates whether a company's cash flow is sufficient to meet its short-and long-term liabilities.

- **SOLVENCY RATIO**

SOLVENCY RATIO = TOTAL LIABILITIES TO OUTSIDERS
ASSETS

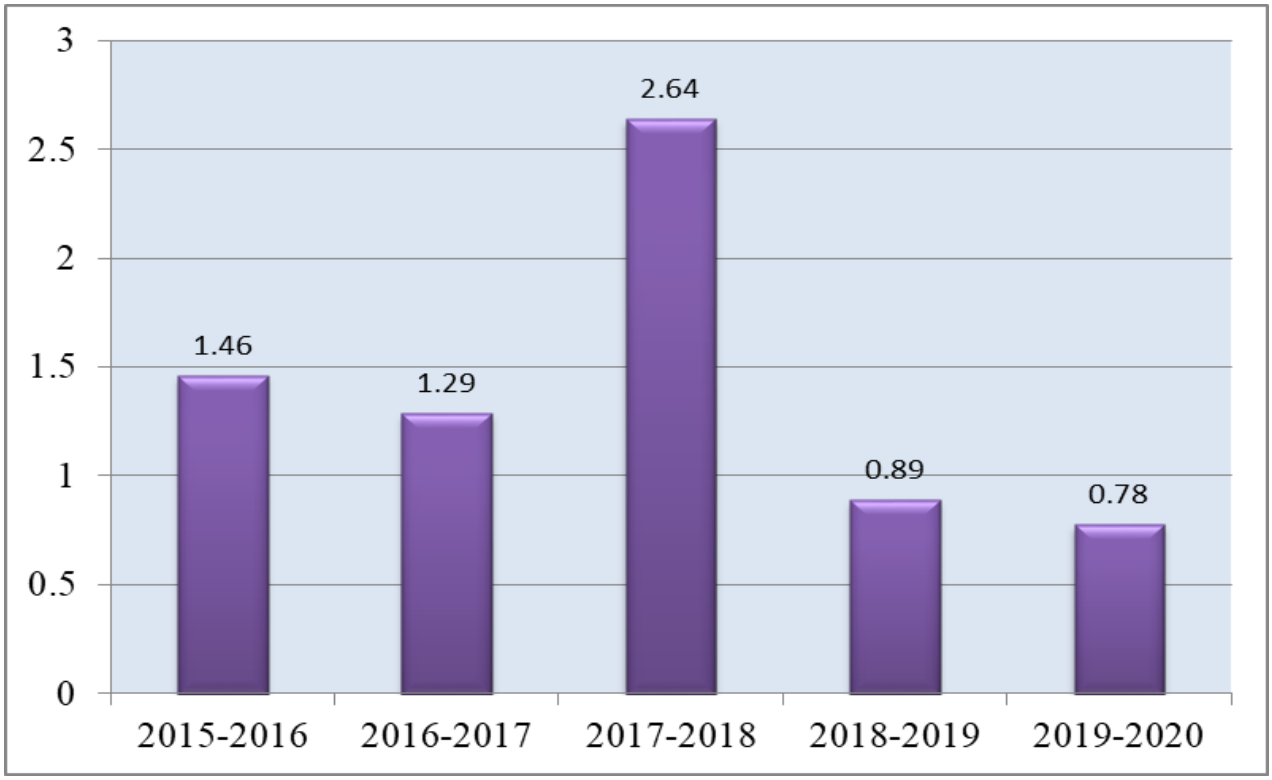
TABLE 5.4

TABLE SHOWING SOLVENCY RATIO

YEAR	TOTAL LIABILITIES TO OUTSIDERS	ASSETS	SOLVENCY RATIO
2015-2016	402333781	274406768	1.46
2016-2017	375532563	290391023	1.29
2017-2018	653928933	247522310	2.64
2018-2019	771011529	858428199	0.89
2019-2020	759180374	968929210	0.78
Average Ratio			1.41

FIG 5.4

GRAPH SHOWING SOLVENCY RATIO



INTERPRETATION

The table & graph represents the Solvency ratio for a period of 2015-2020 and the average cash position ratio is 1.41. The ideal solvency ratio is 20%. Highest ratio was in the period 2017-18 that is 2.64. Because of increase in asset increase more than debt and the lowest ratio was in the financial year 2019-20 that is 0.78 due to decrease in liquid assets. The table shows that the solvency ratio of a Alind Switch Gear Limited, Mannar is not satisfactory.

➢ DEBT TO EQUITY RATIO

The debt-to-equity (D/E) ratio is calculated by dividing a company's total liabilities by its shareholder equity. These numbers are available on the balance sheet of a company's financial statements**.**

DEBT TO EQUITY RATIO = TOTAL LIABILITIES
TOTAL SHAREHOLDERS FUND

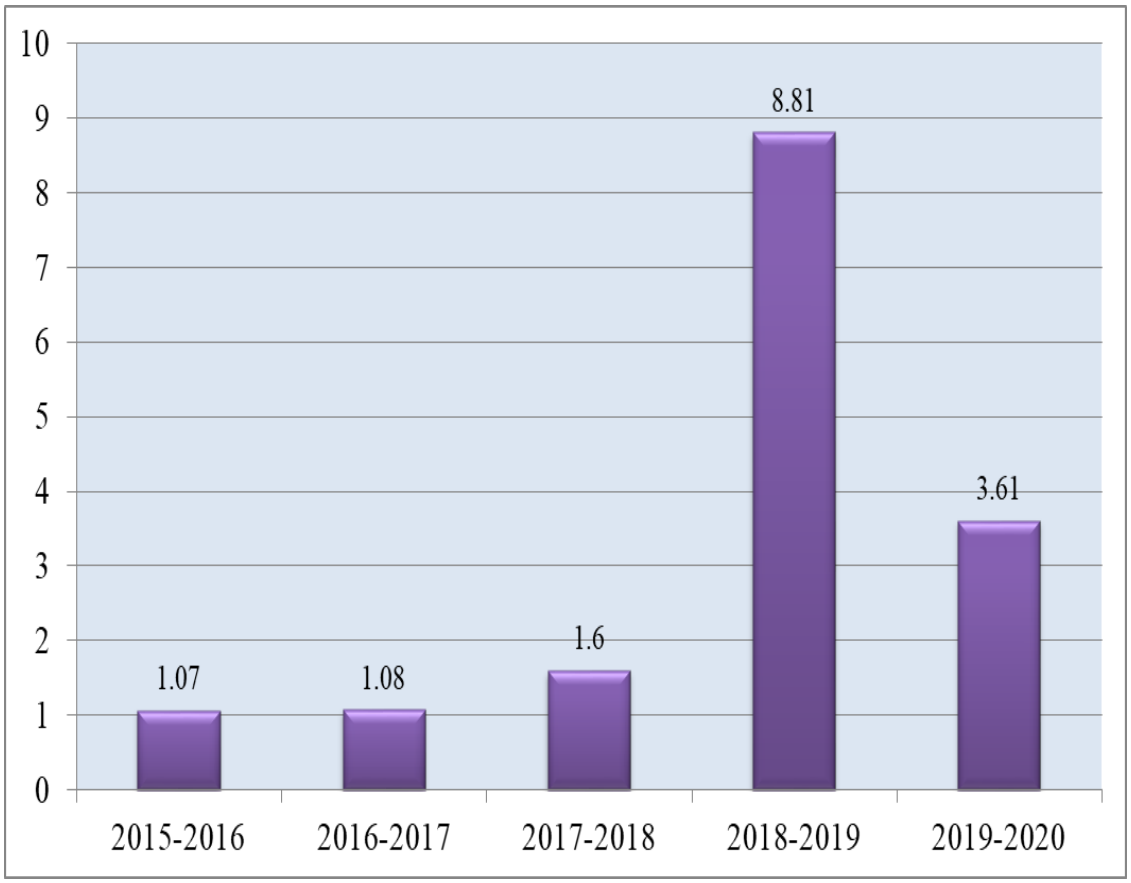
TABLE 5.5

TABLE SHOWING DEBT TO EQUITY RATIO

YEAR	LIABILITIES	SHAREHOLDERS EQUITY	DEBT TO EQUITY RATIO
2015-2016	4023337813	3748931045	1.07
2016-2017	3755325636	3464934613	1.08
2017-2018	653928933	406406623	1.60
2018-2019	771011529	87416670	8.81
2019-2020	759180374	209748834	3.61
Average Ratio			3.23

FIG 5.5

GRAPH SHOWING DEBT TO EQUITY RATIO



INTERPRETATION

The table & graph represents the debt to equity ratio for a period of 2015-2020 and the average debt to equity ratio is 3.23. The ideal debt to equity ratio is 2. Debt to equity ratio was higher on the year 2018-19 that is 8.81 and was lower on 2015-16 that is 1.07. The average debt to equity ratio is 3.23 which is higher than the ideal value which indicates that the company is financing growth with large amount of debt .

➢ PROPRIETARY RATIO

This ratio relates to the shareholders fund to total assets. It shows long term solvency of the business. Proprietary ratio shows the financial strength of the company. It helps the creditors to find out the proportion of shareholders fund in total assets.

PROPRIETARY RATIO = SHAREHOLDERS FUNDS
TOTAL ASSETS

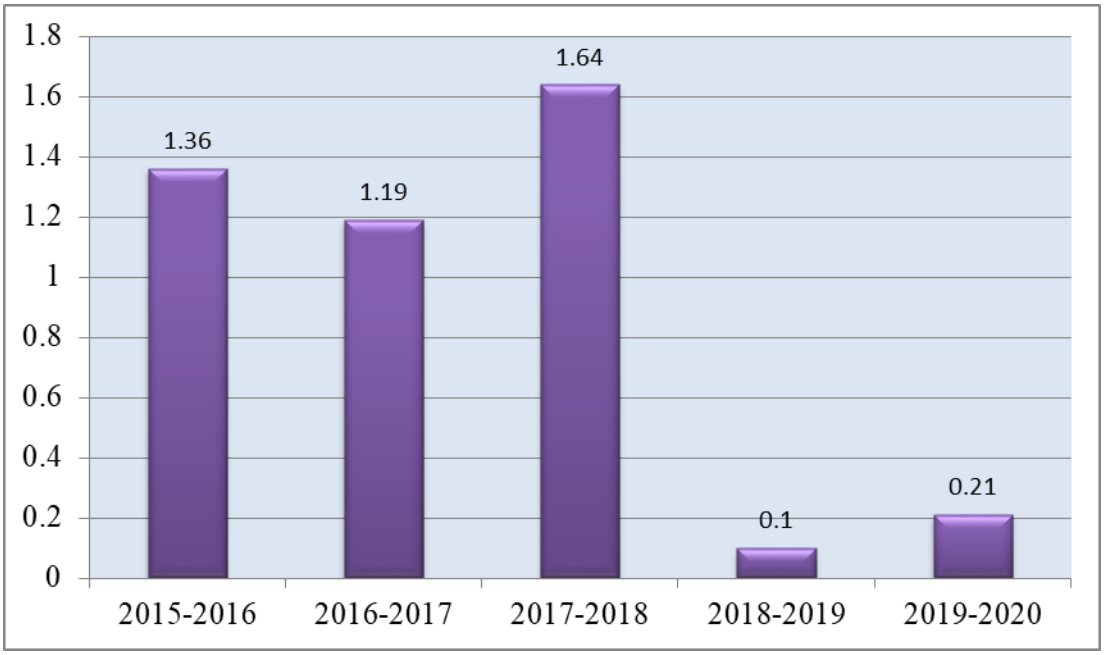
TABLE 5.6

TABLE SHOWING PROPRIETARY RATIO

YEAR	SHAREHOLDERS FUND	TOTAL ASSET	PROPRIETORY RATIO
2015-2016	374893104	274406768	1.36
2016-2017	346493461	290391023	1.19
2017-2018	406406623	247522310	1.64
2018-2019	87416670	858428199	0.10
2019-2020	209748834	968929210	0.21
Average Ratio			0.9

FIG 5.6

GRAPH SHOWING PROPRIETARY RATIO



INTERPRETATION

The table & graph represents the proprietary ratio for a period of 2015-2020 and the average proprietary ratio is 0.9. A standard of 1.3 is considered as an acceptable norm for this ratio. Highest ratio was in the period 2017-18 that is 1.64 indicates long term solvency of the company. Lowest ratio was in the period 2018-19 and that is 0.1 indicates the company may be making use of too much debt rather than equity to support operations.

➢ INTEREST COVERAGE RATIO

This ratio is also known as debt service ratio or debt service coverage ratio. This ratio relates the fixed interest charges to the income earned by the business.

$$\text{INTEREST COVERAGE RATIO} = \frac{\text{EBIT}}{\text{INTERST EXPENSE}}$$

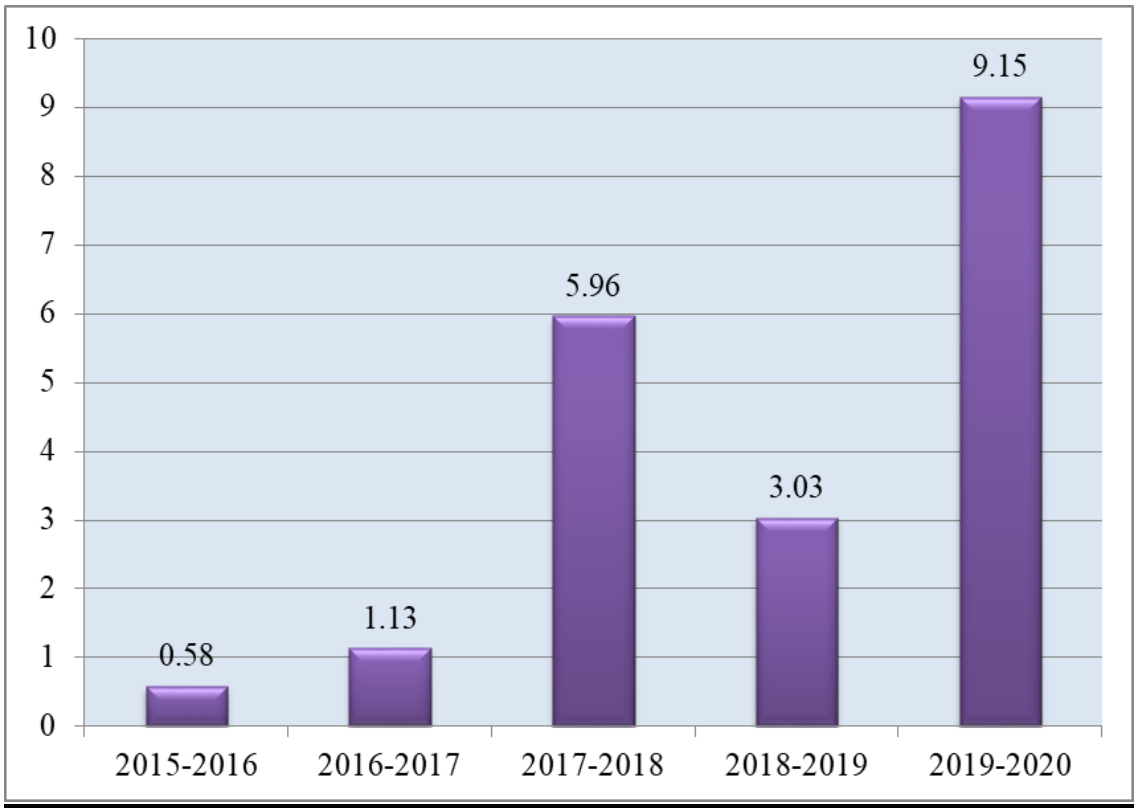
TABLE 5.7

TABLE SHOWING INTEREST COVERAGE RATIO

YEAR	EBIT	INTEREST EXPENSE	INTEREST COVERGE RATIO
2015-2016	31747105	54140944	0.58
2016-2017	38853568	34195672	1.13
2017-2018	275622013	46219262	5.96
2018-2019	140055526	46219262	3.03
2019-2020	128539062	14039092	9.15
Average Ratio			3.97

FIG 5.7

GRAPH SHOWING INTEREST COVERAGE RATIO



INTERPRETATION

The table & graph represents the Interest coverage ratio for a period of 2015-2020 and the average ratio is 3.97. . Highest ratio was in the year 2019-20 that is 9.15 and the lowest was in 2015-16 that is 0.58.

➢ FIXED ASSET TO NET WORTH RATIO

This ratio shoes the relationship between fixed assets and shareholders fund. The purpose of this ratio is to find out the percentage of the owners fund invested in fixed assets.

FIXED ASSET TO NET WORTH RATIO = $\frac{\textbf{FIXED ASSET}}{\textbf{EQUITY CAPITAL}}$

EQUITY CAPITAL = TOTAL FIXED ASSET- DEPRECIATION

FIXED ASSET = SHARECAPITAL + RESERVE AND SURPLUS

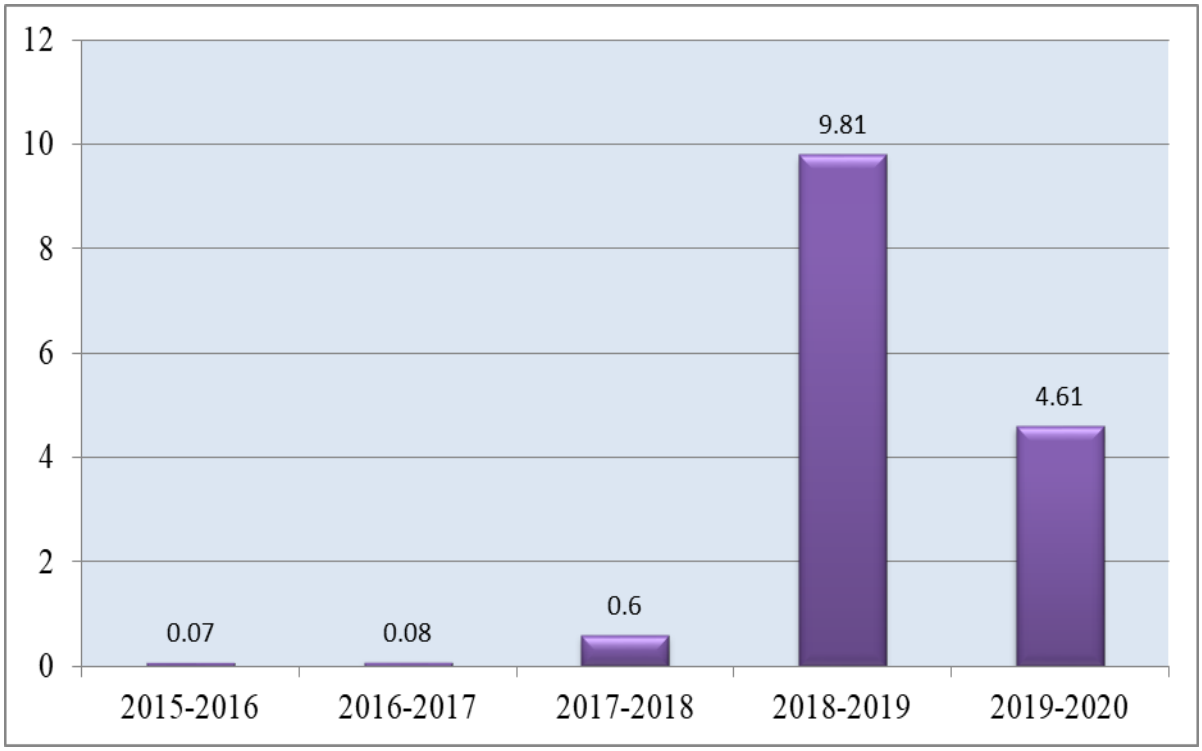
TABLE 5.8

TABLE SHOWING FIXED ASSET TO NET WORTH RATIO

YEAR	FIXED ASSET	EQUITY CAPITAL	FIXED ASSET TO NET WORTH
2015-2016	274406768	3748931045	0.07
2016-2017	290391,023	3464934613	0.08
2017-2018	2475,22,310	406406623	0.60
2018-2019	858428199	87416670	9.81
2019-2020	968929209	209748834	4.61
Average Ratio			3.03

FIG 5.8

GRAPH SHOWING FIXED ASSET TO NET WORTH RATIO



INTERPRETATION

The table & graph represents the fixed asset to net worth ratio for a period of 2015-2020 and the average ratio is 3.03. The ratio is fluctuating every year. Highest ratio was in the year 2018-19 that is 9.81 indicates that creditors funds have been used to acquire a part of fixed assets and the lowest was in 2015-16 that is 0.07.

5.1.2 PROFITABILITY RATIO

a) NET PROFIT RATIO

This ratio is also called as the net profit to sales or net margin ratio. Net profit ratio is used to measure the overall profitability and hence it is very useful to proprietors.

NET PROFIT RATIO = NET PROFIT*100/SALES

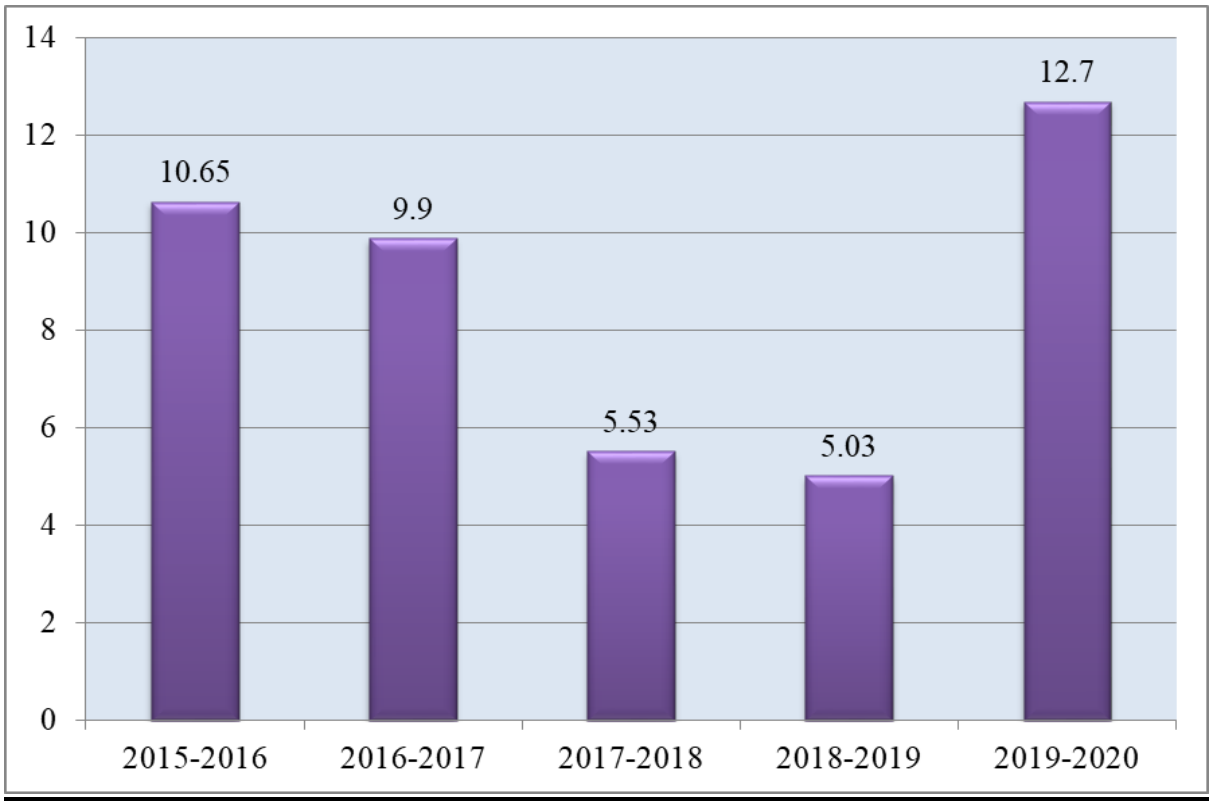
TABLE 5.9

TABLE SHOWING NET PROFIT RATIO

YEAR	NET PROFIT	NET SALES	NET PROFIT RATIO
2015-2016	31747105	297861705	10.65
2016-2017	38853568	392149853	9.90
2017-2018	2756220350	498125962	5.53
2018-2019	469864055	93336175	5.03
2019-2020	125920037	990948029	12.70
Average Ratio			8.76

FIG 5.9

GRAPH SHOWING NET PROFIT RATIO



INTERPRETATION

The table & graph represents the net profit ratio for a period of 2015-2020 and the average ratio is 8.76. Highest ratio was in the financial year 2019-20 that is 12.07 indicates the operational efficiency of a company is good. Lowest ratio was in 2018-19 indicates the overall profitability of a company is not satisfactory.

b) RETURN ON SHAREHOLDERS FUND

This ratio shows the rate of profit on shareholder's fund. It relates the profit available for the share holders to their total investment. It is also known as 'profit on net worth ratio'.

RETURN ON SHAREHOLDERS' FUND = NET PROFIT (AFTER INTEREST AND TAX)*100/SHAREHOLDERS FUND

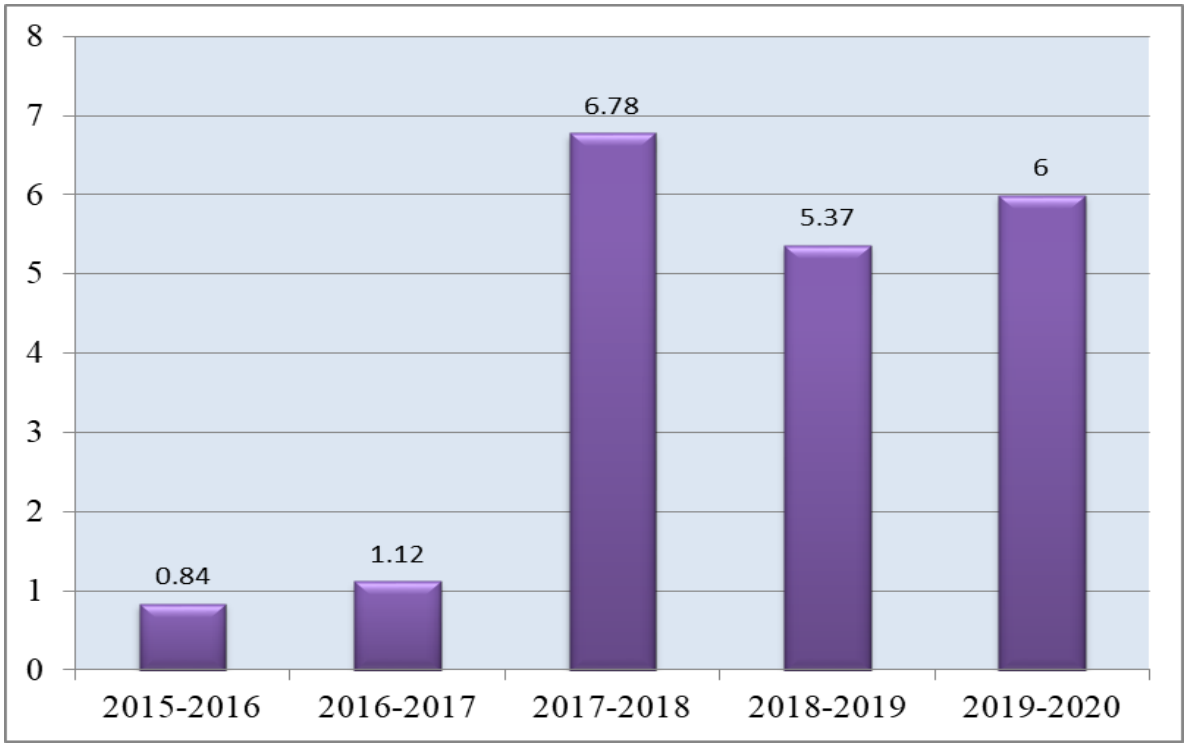
TABLE 5.10

TABLE SHOWING RETURN ON SHAREHOLDERS FUND

YEAR	NET PROFIT	SHAREHOLDERS FUND	RETURN ON SHAREHOLDERS FUND
2015-2016	31747105	3,748931045	0.84
2016-2017	38853568	3464934613	1.12
2017-2018	2756220350	4064006623	6.78
2018-2019	469864055	87416670	5.37
2019-2020	125920037	20974883	6.00
Average Ratio			4.02

FIG 5.10

GRAPH SHOWING RETURN ON SHAREHOLDERS FUND



INTERPRETATION

The table & graph represents the return on share holders fund for a period of 2015-2020 and the average ratio is 4.02. Highest ratio was in the financial year 2017-18 that is 6.78 indicates high rate of profit on shareholders fund. Lowest ratio was in 2015-16 that is 0.84.

c) RETURN ON EQUITY SHARE CAPITAL

RETURN ON EQUITY SHARE CAPITAL = NET PROFIT(AFTER INTEREST AND TAX)*100/EQUITY SHARE CAPITAL

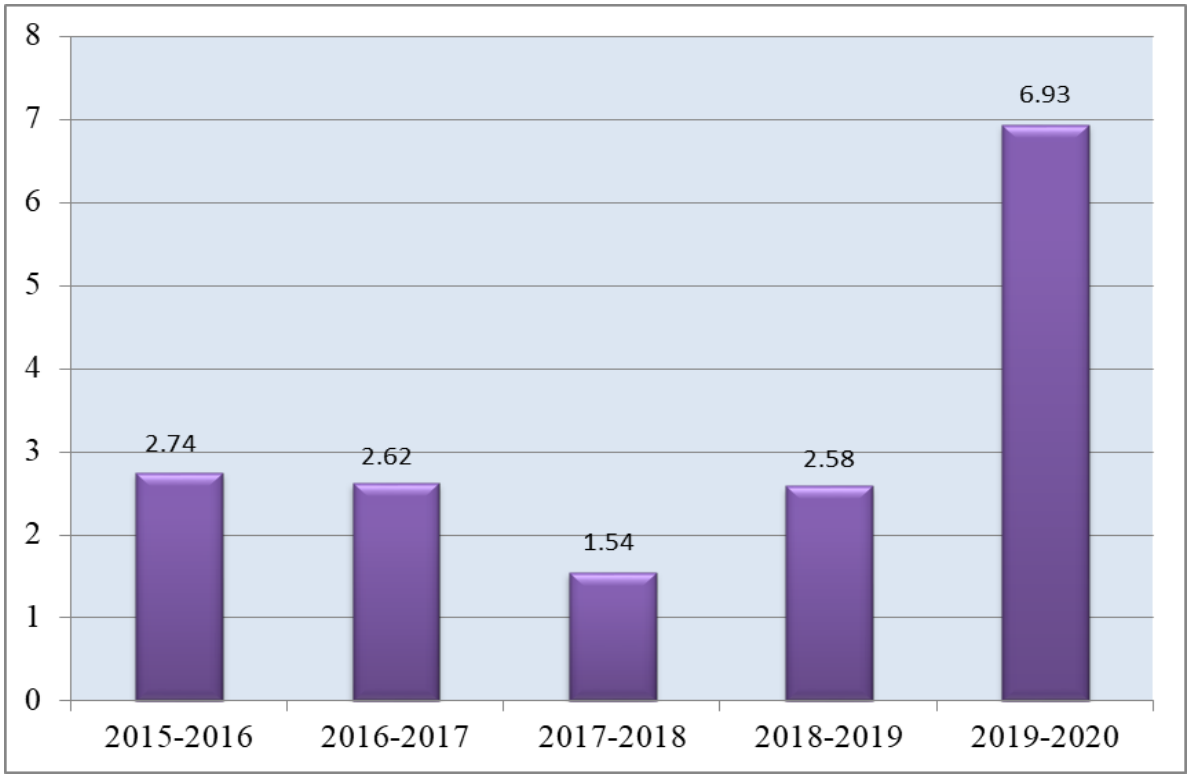
TABLE 5.11

TABLE SHOWING RETURN ON EQUITY SHARE CAPITAL

YEAR	NET PROFIT	EQUITY SHARE CAPITAL	RETURN ON EQUITY SHARE CAPITAL
2015-2016	31747105	1155858964	2.74
2016-2017	38853568	1478708964	2.62
2017-2018	2756220350	1786308964	1.54
2018-2019	469864055	1814963964	2.58
2019-2020	125920037	1814963964	6.93
Average Ratio			3.28

FIG 5.11

GRAPH SHOWING RETURN ON EQUITY SHARE CAPITAL



INTERPRETATION

The table & graph represents the return on equity share capital for a period of 2015-2020 and the average ratio is 3.28. Highest ratio was in the year 2019-20 that is 6.93 and the lowest ratio was in 2017-18 that is 1.54.The ideal value is considered between 15 and 20% .hence the result is unsatisfactory.

5.1.3 TURNOVER RATIO

a) WORKING CAPITAL TURNOVER RATIO

This ratio reflects the turnover of the firm's net working capital in the course of the year. It is a good measure of over-trading and under- trading.

WORKING CAPITAL TURNOVER RATIO = NET SALES/ NET WORKING CAPITAL

WORKING CAPITAL= CURRENT ASSET-CURRENT LIABILITIES

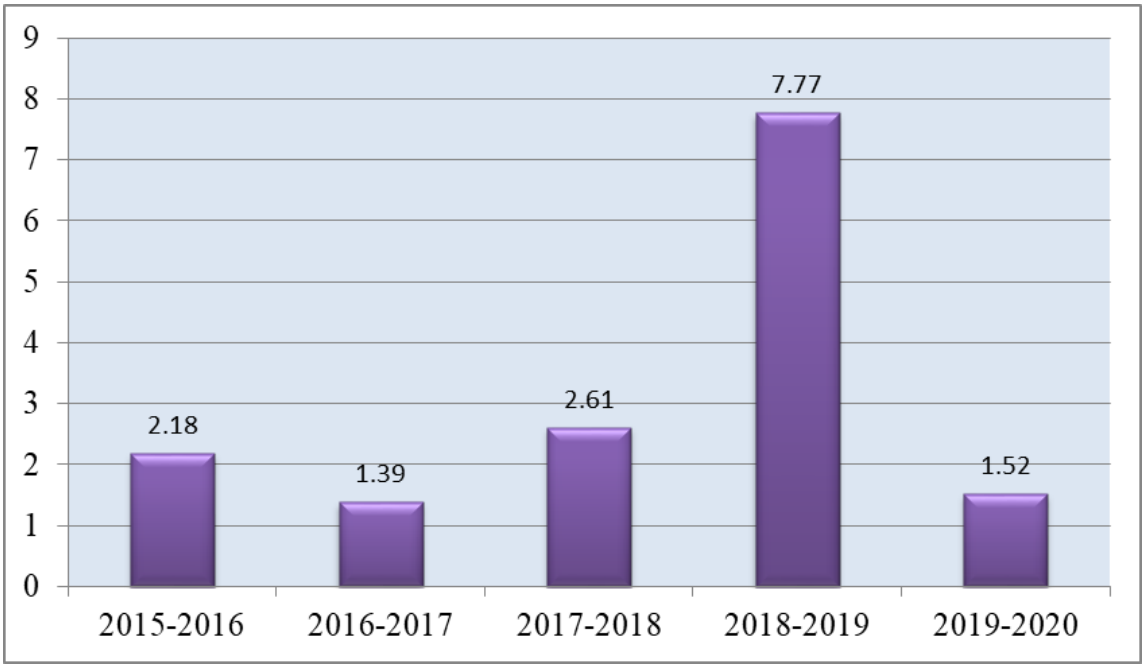
TABLE 5.12

TABLE SHOWING WORKING CAPITAL TURNOVER RATIO

YEAR	NET SALES	WORKING CAPITAL	WORKING CAPITAL TURNOVER RATIO
2015-2016	297861705	136323625	2.18
2016-2017	392149853	281675455	1.39
2017-2018	498125962	190261842	2.61
2018-2019	933361757	120026918	7.77
2019-2020	99094802	64823834	1.52
Average Ratio			3.09

FIG 5.12

GRAPH SHOWING WORKING CAPITAL TURNOVER RATIO



INTERPRETATION

The table & graph represents working capital turnover for a period of 2015-2020 and the average working capital turnover ratio is 3.09. Highest ratio was in2018-19 that is 7.77 due to efficient utilization of firm's short term assets and liabilities to support sales. Lowest ratio was in 2016-17 it indicate a business is investing in too many accounts receivable and inventory assets to support its sales, which would eventually lead to an excessive amount of bad debts and obsolete inventory.

b) INVENTORY TURNOVER RATIO

This ratio indicates whether investment in inventory is efficiently used or not. It therefore, explains whether investment in inventories is within limits or not. It also measures the effectiveness of the firm's sales efforts.

INVENTORY TURNOVER RATIO = **COST OF GOOD SOLD**

AVERAGE STOCK

COST OF GOOD SOLD =REVENUE FROM OPERATION+GROSS PROFIT

AVERAGE INVENTORY = OPENING STOCK +CLOSING STOCK /2

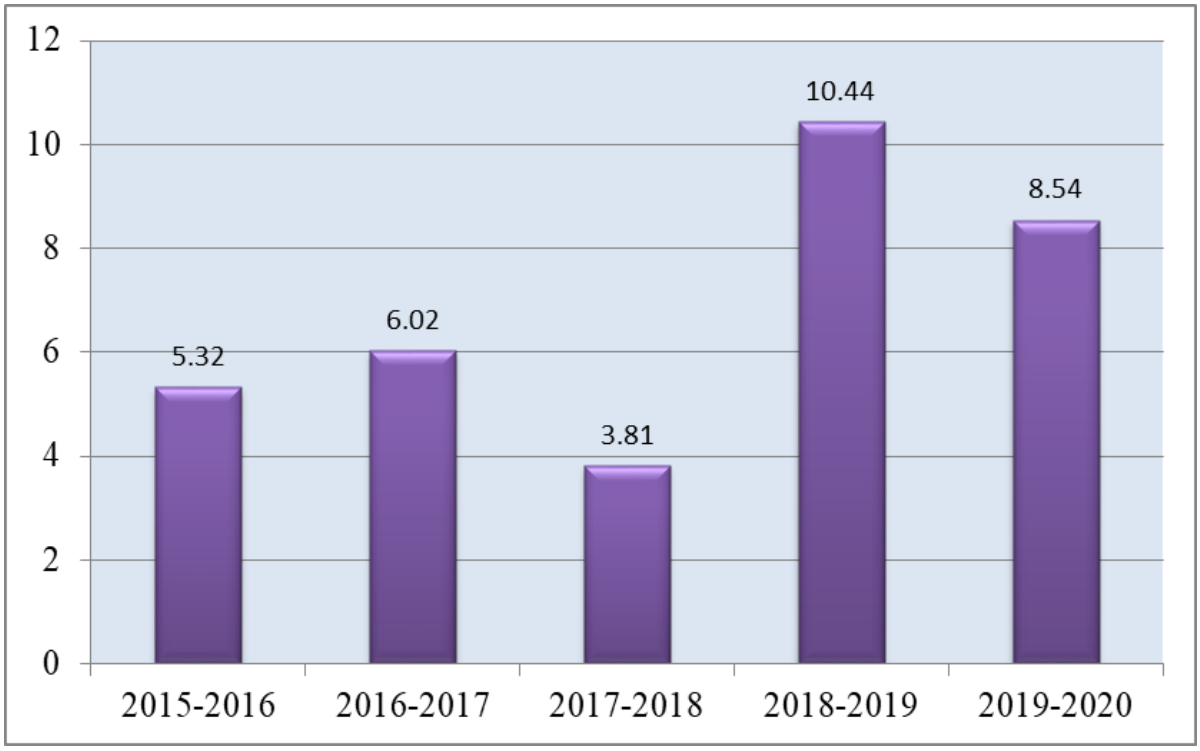
TABLE 5.13

TABLE SHOWING INVENTORY TURNOVER RATIO

YEAR	COST OF GOOD SOLD	AVERAGE STOCK	INVENTORY TURNOVER RATIO
2015-2016	329608816	61941860	5.32
2016-2017	431003431	71577926	6.02
2017-2018	325434631	85201198	3.81
2018-2019	1403225812	134407140	10.44
2019-2020	1116868066	130732002	8.54
Average Ratio			6.82

FIG 5.13

GRAPH SHOWING INVENTORY TURNOVER RATIO



INTERPRETATION

The table & graph represents the inventory turnover ratio for a period of 2015-2020 and the average inventory turnover ratio is 6.82. The highest ratio was in 2017-18 that is 10.44 due to increase in sales. Lowest ratio was in 2017-18 that is 3.81.A good inventory turnover ratio is between 5 and 10 for most industries, which indicates that company sell and restore its inventories every 1 to 2 months. The average ratio is satisfactory.

c) CURRENT ASSET TURNOVER RATIO

Current asset turnover ratio indicates that the current assets are turned over in the form of sales more number of times. A high current assets turnover ratio indicates the capability of the organization to achieve maximum sales with the minimum investment in current assets.

CURRENT ASSET TURNOVER RATIO = NET SALES / CURRENT ASSETS

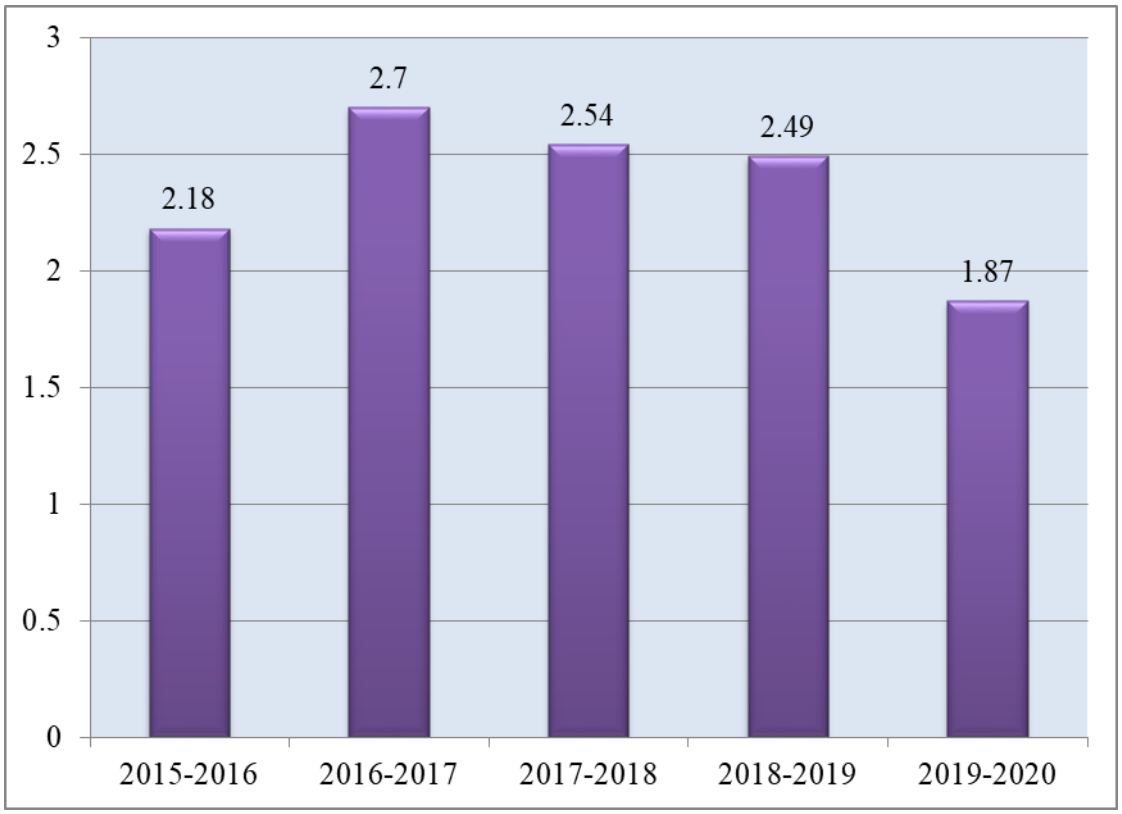
TABLE 5.14

TABLE SHOWING CURRENT ASSET TURNOVER RATIO

YEAR	NET SALES	CURRENT ASSET	CURRENT ASSET TURNOVER RATIO
2015-2016	297861705	136323626	2.18
2016-2017	392149853	144712114	2.70
2017-2018	498125962	195360142	2.54
2018-2019	933361757	374369007	2.49
2019-2020	990948029	528577634	1.87
Average Ratio			2.35

FIG 5.14

GRAPH SHOWING CURRENT ASSET TURNOVER RATIO



INTERPRETATION

The table & graph represents current asset turnover for a period of 2015-2020 and the average working capital turnover ratio is 2.35. Highest ratio was in2016-17 that is 2.7 and Lowest ratio was in 2019-20 that is 1.87. An asset turnover ratio of 2.5 or more could be considered good.

d) FIXED ASSET TURNOVER RATIO

FIXED ASSET TURNOVER RATIO = NET SALES / FIXED ASSETS

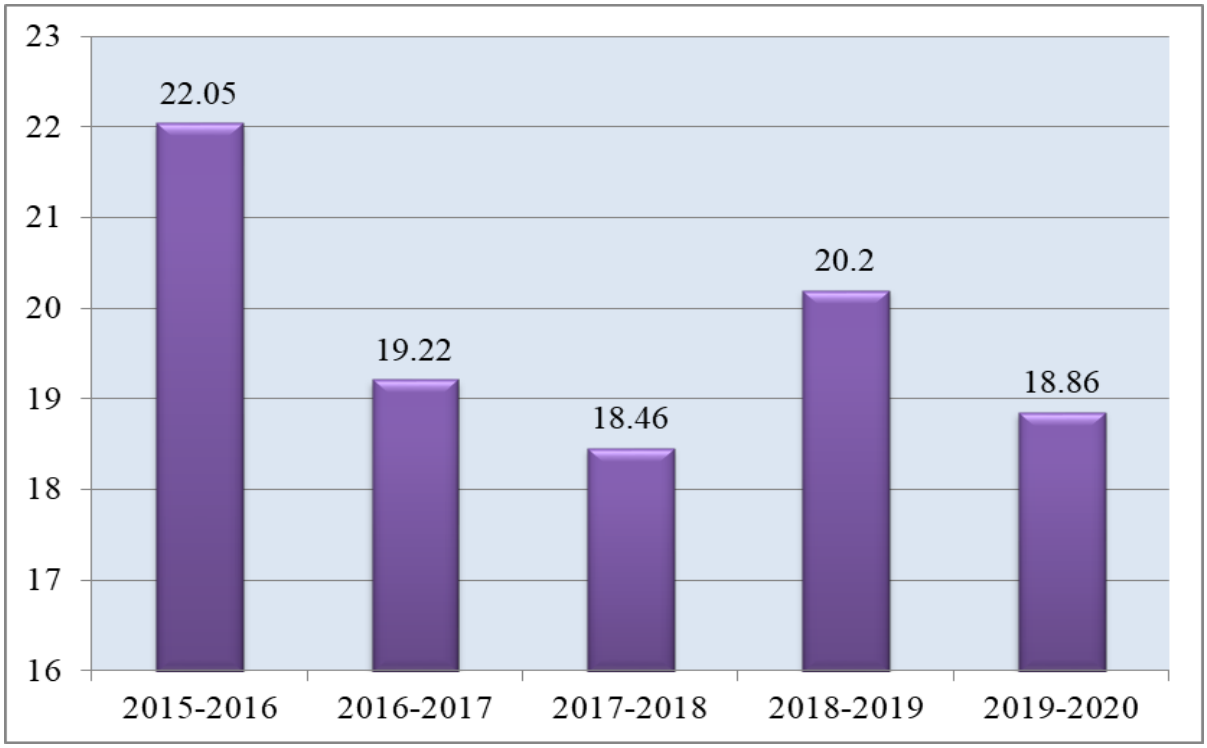
TABLE 5.15

TABLE SHOWING FIXED ASSET TURNOVER RATIO

YEAR	NET SALES	FIXED ASSET	FIXED ASSET TURNOVER RATIO
2015-2016	297861705	13503019	22.05
2016-2017	392149863	20394844	19.22
2017-2018	498125962	26971294	18.46
2018-2019	933361757	46187804	20.20
2019-2020	990948029	52534465	18.86
Average Ratio			19.75

FIG 5.15

GRAPH SHOWING FIXED ASSET TURNOVER RATIO



INTERPRETATION

The table & graph represents fixed asset turnover for a period of 2015-2020 and the average working capital turnover ratio is 19.75. Highest ratio was in2015-16 that is 22.05 and Lowest ratio was in 2017-18 that is 18.46. An asset turnover ratio of 2.5 or more could be considered good.

5.2 TREND ANALYSIS

Trend Analysis is a statistical tool that helps to determine future movements of a variable on the basis of its historical trends. In simple words, it predicts future behavior on the basis of past data. Under this method, a representative year is selected as the base year and the values of items in the base year are assumed to be 100. Then the relationship of each item in the subsequent years is expressed as a percentage of the same item in the base year

TREND PERCENTAGE = (CURRENT YEAR/BASE YEAR)*100

- **TREND ANALYSIS OF CURRENT ASSETS**

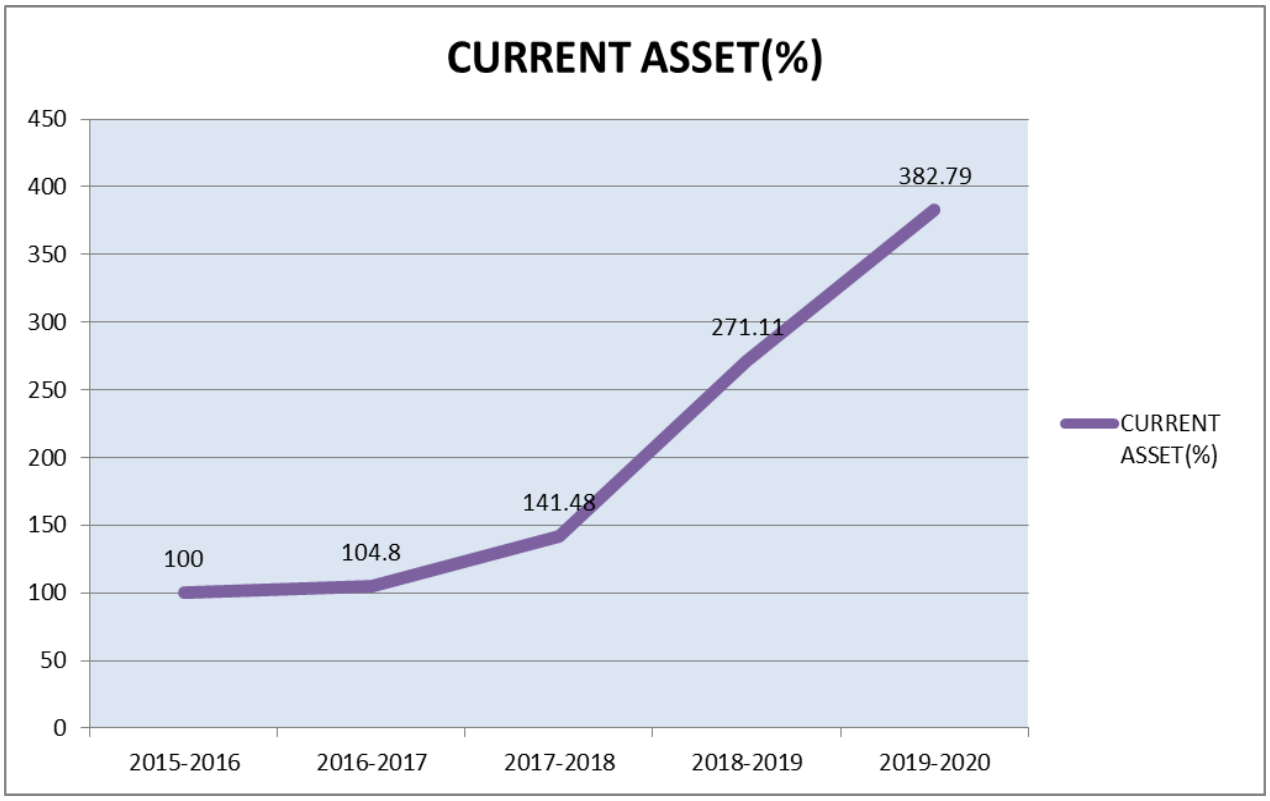
TABLE 5.16

TABLE SHOWING TREND ANALYSIS OF CURRENT ASSETS

TREND ANALYSIS OF CURRENT ASSETS		
YEAR	**CURRENT ASSETS**	**TREND ANALYSIS OF CURRENT ASSET(%)**
2015-2016	138083143	100
2016-2017	144712114	104.80
2017-2018	195360142	141.48
2018-2019	374369007	271.11
2019-2020	528577634	382.79

FIG 5.16

GRAPH SHOWING TREND ANALYSIS OF CURRENT ASSETS



INTERPRETATION

The table & graph shows the trend analysis of sales from 2015-2020.Trend percentage shows an fluctuating trend .But from the year 2016-2017 the graph rises constantly and in the year 2019-2020 it reaches the highest ratio, due to increase in current assets.

➢ TREND ANALYSIS OF SALES

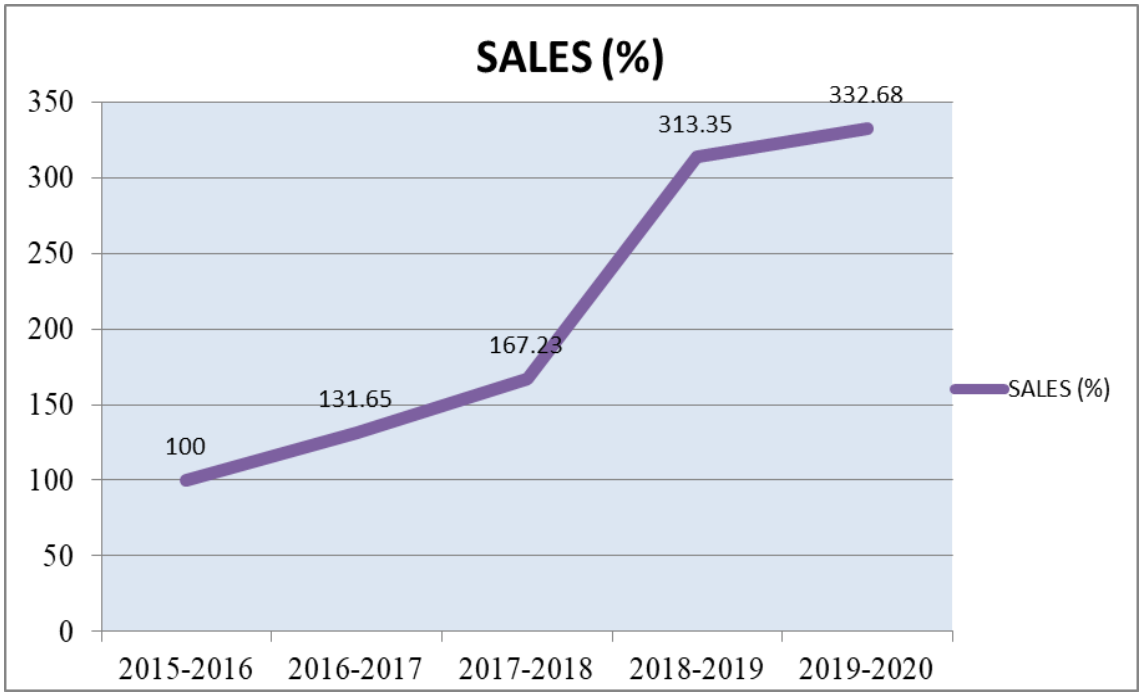
TABLE 5.17

TABLE SHOWING TREND ANALYSIS OF SALES

TREND ANALYSIS OF SALES		
YEAR	**SALES**	**TREND ANALYSIS OF SALES (%)**
2015-2016	297861705	100
2016-2017	392149853	131.65
2017-2018	498125962	167.23
2018-2019	933361757	313.35
2019-2020	990948029	332.68

FIG 5.17

GRAPH SHOWING TREND ANALYSIS OF SALES



INTERPRETATION

The graph shows the trend analysis of sales from 2015-2020.Trend percentage shows an upward trend. From the 2015-2016 onwards it shows growing signs and from 2017-2018 it achieves higher growth and this indicates high demand of company's product in the market.

➢ TREND ANALYSIS OF CASH & BANK BALANCES

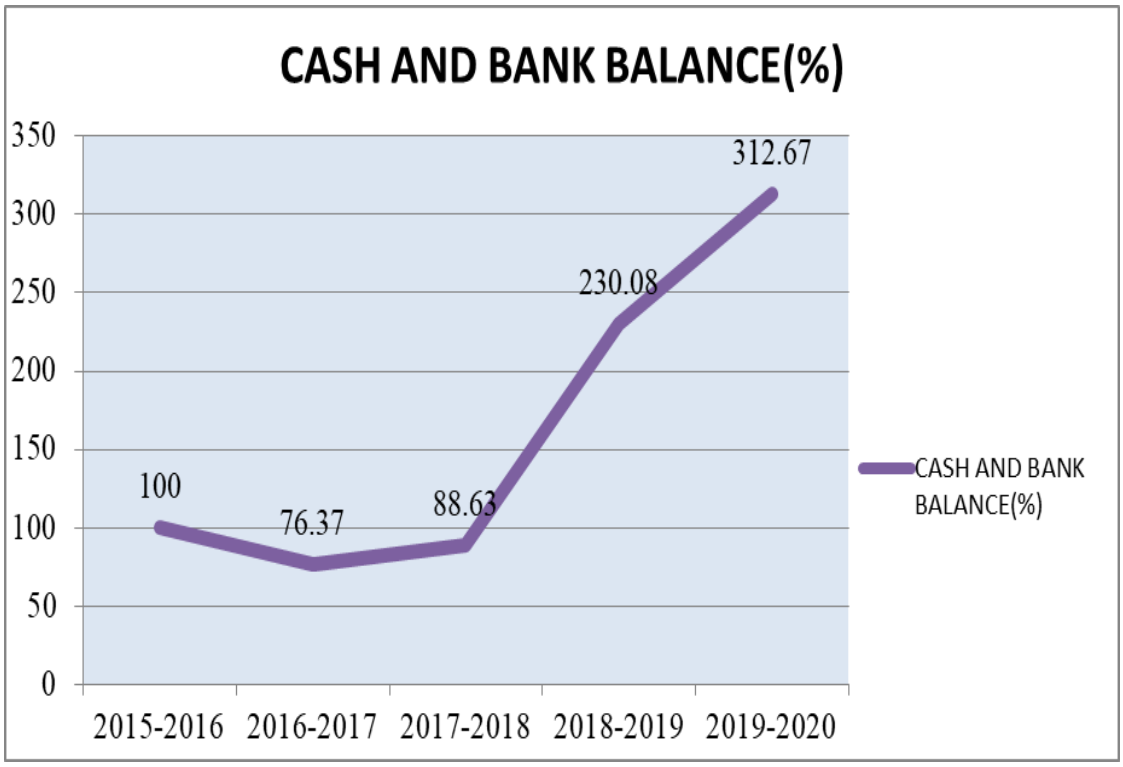
TABLE 5.18

TABLE SHOWING TREND ANALYSIS OF CASH & BANK BALANCES

TREND ANALYSIS OF CASH & BANK BALANCES		
YEAR	**CASH & BANK BALANCES**	**TREND ANLYSIS OF CASH AND BANK BALANCE(%)**
2015-2016	40569558	100
2016-2017	30983501	76.37
2017-2018	35958750	88.63
2018-2019	93345720	230.08
2019-2020	126850318	312.67

FIG 5.18

GRAPH SHOWING TREND ANALYSIS OF CASH & BANK BALANCES



INTERPRETATION

Cash and Bank balances include cash in hand, cheque, Drafts, balances with banks. A cash and Bank balance shows a cosistant growing pattern except in the year of 2016-2017, 2017-2018 in both cases the cash and bank balance goes down below the standard based on 2015-2016 .Increasing sales, decreasing expenses highest peak was on 2019-2020.

5.3 CORRELATION ANALYSIS

When comparing the correlation between two items, one item is called the "dependent" item and the other the "independent" item. The goal is to see if a change in the independent item (which is usually an indicator) will result in a change in the dependent item (usually a security's price). This information helps you understand an indicator's predictive abilities. The correlation coefficient can range between +1.0 (plus or minus one).

A coefficient f +1.0, a "perfect positive correlation." means that changes in the independent item will result in an identical change in the dependent item (e-g, a change in the indicator will result in an identical change in the security's price). A coefficient of -1.0, a "perfect negative correlation", means that changes in the independent item will result in an identical change in the dependent item, but the change will be in the opposite direction. A coefficient of zero means there is no relationship between the two items and that a change in the independent item will have no effect in the dependent item.

$$r = \frac{n\Sigma xy - \Sigma x\,\Sigma y}{\sqrt{n\Sigma x^2 - (\Sigma x)^2}\ \sqrt{n\Sigma y^2 - (\Sigma y)^2}}$$

HYPOTHESIS-1 FINDING THE SIGNIFICANCE BETWEEN WORKING CAPITAL AND CASH

H_0- There is no significance between working capital and profit

YEAR	WORKING CAPITAL(X)	CASH(Y)
2015-2016	136323625	40569558
2016-2017	281675455	30983501
2017-2018	190261842	35958750
2018-2019	120026918	93345720
2019-2020	64823834	126850318

TABLE 5.19

TABLE SHOWING CORRELATION BETWEEN WORKING CAPITAL AND CASH

YEAR	WORKING CAPITAL(X)	CASH(Y)	XY	X^2	Y^2
2015-2016	1363	405	552015	1857769	164025
2016-2017	2816	309	870144	7929856	95481
2017-2018	1902	359	6841.578	3617604	128881
2018-2019	1200	933	1119600	1440000	870489
2019-2020	648	1268	821664	419904	1607824
Σ	**7929**	**3274**	**4046241**	**15265133**	**2866700**

(In Lakhs)

N = 5

Σ X =7929

ΣY=3274 Σ X^2= 15265133

Σ XY= 4046241 Σ Y^2=2866700

$$r = \frac{n\Sigma xy - \Sigma x\,\Sigma y}{\sqrt{n\Sigma x^2 - (\Sigma x)^2}\ \sqrt{n\Sigma y^2 - (\Sigma y)^2}}$$

r= (5*4046241) - (7929 * 3274)

$\sqrt{5* 15265133 - (7929)^2}$ x $\sqrt{5*2866700 – (3274)^2}$

= 20231205 - 25959546

$\sqrt{76325665 – 6286904}$ x $\sqrt{14333500 – 10719076}$

= -5728341

$\sqrt{13456627}$ x $\sqrt{3614424}$

$$= \frac{-5728341}{3668032 * 1901.16}$$

$$= \frac{-5728341}{6974063.251}$$

$$= -0.82$$

$\mathbf{H_1}$ = There is significance retation between working capital and cash.

INTERPRETATION

Here the value of r is -0.82 which shows a negative correlation between working capital and cash. There exist a correlation between working capital and cash. Here the value shows a low correlation between working capital and cash in the firm.

HYPOTHESIS-2 FINDING THE SIGNIFICANCE BETWEEN SALES AND PROFIT

H_0- There is no significance between Sales and Profit

YEAR	SALES(X)	PROFIT(Y)
2015-2016	297861705	31747105
2016-2017	392149853	38853568
2017-2018	498125962	2756220350
2018-2019	933361757	140055526
2019-2020	990948029	125920037

TABLE 5.20

TABLE SHOWING CORRELATION BETWEEN SALES AND PROFIT

YEAR	SALES(X)	PROFIT(Y)	XY	X^2	Y^2
2015-2016	2978	317	944026	8868484	100489
2016-2017	3921	388	1521348	15374241	150544
2017-2018	4981	2756	13728636	24810361	7595536
2018-2019	9333	1400	13066200	87104889	1960000
2019-2020	9909	1259	12475431	98188281	1585081
Σ	**31122**	**6120**	**41734641**	**234346256**	**11391650**

(In Lakhs)

N =5

Σ X =31122

ΣY=6120

Σ X^2= 234346256

Σ XY= 41734641

Σ Y^2=11391650

$$r = \frac{n\Sigma xy - \Sigma x\,\Sigma y}{\sqrt{n\Sigma x^2 - (\Sigma x)^2}\ \sqrt{n\Sigma y^2 - (\Sigma y)^2}}$$

r = (5*41734641) - (31122 * 6120)

$\sqrt{5* 264346256 - (31122)^2}$ x $\sqrt{5*11391650 - (6120)^2}$

= 20231205 - 25959546

$\sqrt{1171731280 - 968578884}$ x $\sqrt{56958250 - 37454400}$

= 18206565

$\sqrt{203152396}$ x $\sqrt{19503850}$

$$= \frac{18206565}{14253 * 4416}$$

$$= \frac{18206565}{62941248}$$

$$= 0.28$$

$\mathbf{H_1}$ = There is significance relation between sales and profit.

INTERPRETATION

Here the value of r is 0.28 which shows a positive correlation between sales and profit. There exist a correlation between sales and profit. Here the value shows a high correlation between sales and profit present in the firm.

HYPOTHESIS-3 FINDING THE SIGNIFICANCE BETWEEN PROFIT AND CASH

H_0- There is no significance between Profit and Sales

YEAR	PROFIT	CASH
2015-2016	31747105	40569558
2016-2017	38853568	30983501
2017-2018	275620350	35958750
2018-2019	140055526	93345720
2019-2020	125920037	126850318

TABLE 5.21

TABLE SHOWING CORRELATION BETWEEN PROFIT AND CASH

YEAR	PROFIT(X)	CASH(Y)	XY	X^2	Y^2
2015-2016	317	405	128385	100489	164025
2016-2017	388	309	119892	150544	95481
2017-2018	2756	359	989404	7595536	128881
2018-2019	1400	933	1306200	1960000	870489
2019-2020	1259	1268	1596412	1585081	1607824
Σ	**6120**	**3274**	**4140293**	**11391650**	**2866700**

(In Lakhs)

N =5

Σ X =6120

ΣY=3274

Σ X^2= 11391650

Σ XY= 4140293

Σ Y^2=2866700

$$r = \frac{n\Sigma xy - \Sigma x\,\Sigma y}{\sqrt{n\Sigma x^2 - (\Sigma x)^2}\ \sqrt{n\Sigma y^2 - (\Sigma y)^2}}$$

r = $\dfrac{(5*4140293) - (6120 * 3274)}{\sqrt{5* 11391650 - (6120)^2} \times \sqrt{5*2866700 - (3274)^2}}$

= $\dfrac{20701465 - 20036880}{\sqrt{56958250 - 37454400} \times \sqrt{14333500 - 10719076}}$

= $\dfrac{664585}{\sqrt{19503850} \times \sqrt{3614424}}$

$$= \frac{664585}{4416.31 * 1901.16}$$

$$= \frac{664585}{8394816}$$

= 0.79

H_1 = There is significance retation between profit and cash.

INTERPRETATION

Here the value of r is 0.79 which shows a positive correlation between profit and cash. There exist a correlation between profit and cash. Here the value shows a correlation between profit and cash present in the firm.

5.4 CASH BUDGET

Cash budget is a primary tool of short term financing. It allows managers to identify short term financing needs. It helps identify when short term borrowings will be needed. The cash budget basically records estimates of cash receipts and disbursements.

TABLE 5.22

CASH BUDGET	2021-2022 BUDGET
Income (receipts)	
Sales	991050030
Other Income	36340915
TOTAL	**1027390945**
Expenditure (Payments)	
Cost of Material Consumed	592576598
Power and Fuel Cost	
Employee Cost	164388068
Other Expense	156666474
TOTAL	**913631140**
Profit/ loss (Cash Balance)	113759805

INTERPRETATION

The next financial year 2020-2021, company expecting a total sale 991050030. Moreover company expecting some big orders in order to maximize the sale, despite of the pandamic. Because of the expecting more sales, the entire company turnover will change and slightly affects fixed and variable costs too In order to increase the product line and market share the company.

CHAPTER 6

FINDINGS OF THE STUDY

FINDINGS OF THE STUDY

- The current ratio of the firm is below the minimum standard for providing the working capital finance.
- The quick ratio is higher than the ideal value.This typically means company can pay its liabilities.
- The absolute liquidity ratio indicates the liquidity position is not satisfactory, and is less likely to face financial hardships.
- The solvency ratio of the firm is below the ideal value which indicates that its inability to meet its long term debts and obligations.
- The debt to equity ratio of the firm is beyond the safe limit which is usually considerd risky.
- The low proprietory ratio of the Alind Switch Gear Limited, indicates that the company is already heavily depending on debts for its operations.
- The interest coverage ratio of the Alind Switch Gear Limited, is considerd acceptable amount for a company that has consitent revenues.
- The fixed asset to net worth ratio shows fluctuating trend and highest ratio indicates that creditors funds have been used to acquire a part of fixed assets.
- The net profit ratio indicates the company is trying to achieve maximum profitability from their business activity.
- The return of shareholders fund indicates the company is not efficient in generating profit.
- The working capital turnover measures the effectiveness of business at generating sales for every rupees of working capital put to use.
- The inventory turnover ratio is satisfactory which tells that the company sell and restock its inventory every 1 to 2 months.
- The current asset turnover ratio is moderate the higher the asset turnover ratio the more efficient is company.
- The return on equity is a measure of profitability of a business in relation to the equity. The return on equity share capital shows the firms is unsatisfactory.
- Trend analysis of current asset shows fluctuating nature .
- The positive value of trend anlysis of sales ratio indicating increasing in sales.

- Trend analysis of cash and bank balance are on growing stage .
- Correlation analysis shows that there is a positive relation between working capital and cash, sales and profit as well as profit and cash.
- Cash budget shows that there is a possible receipt of 1027390945 and a possible expense of 913631140. Data is prepared on the basis of previous year receipts and expenses.

CHAPTER 7

CONCLUSION

CONCLUSION OF THE STUDY

The study was undertaken in Alind Switch Gear Limited, Mannar India Limited with a view to measure the cash management system of the company. The main tools that are used in this study are ratios, correlation, trend analysis and cash budget. The analysis is based on the data obtained from internet and also the data given by company guide. The effectiveness of cash management done on the financial position of the company has provided a clear view on the activities of the company. This project was very useful for the awareness of the financial status and cash position system of the company. This evaluation proved a great deal to the management to make a decision on the regulation of the funds to increase the sales and bring profit to the company. This study gave ample opportunity to understand and assimilate the different aspects of cash management activities of Alind Switch Gear Limited, Mannar .

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ANNEXURES

ALIND SWITCH GEAR LIMITED

PROFIT AND LOSS REPORT FOR THE YEAR

2015-2016 TO 2019-2020

SL. NO	PARTICULARS	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020
	Income					
	Revenue from operation	297861705	392149853	498125962	933361757	990948029
	Other Income	66837598	17536531	21488153	33236150	34335912
I	**TOTAL REVENUE**	**396446409**	**448538952**	**580016825**	**966597907**	**1025283942**
	Expenses					
	Cost of material consumed	176204933	225949170	341641444	510232040	592576598
	Changes in Inventory	1021867	5781993	24957444	923852	29504944
	Employee Benefit	92675540	104633600	112073685	139652427	164388068
	Finance Cost	54140944	34196872	46219262	-	14039092
	Depreciation	3785779	3811161	5777672	10487339	19499181
	Other Expense	68617346	74287426	99262202	167094426	156666474
II	**TOTAL EXPENSES**	**364699303**	**409686384**	**519614115**	**828390084**	**976674357**
	Profit before exceptional items	-	-	-60402710	14055526	107619472
	Exceptional Item	-	-	2816762843	-	20919590
III	**PROFIT BEFORE TAX(I-II)**	**31747105**	**38852568**	**2756360133**	**14055526**	**128539062**
	Tax Expense	-	-	139783	329808528	2619025
	PROFIT AFTER TAX	**31747105**	**38852568**	**2756220350**	**469868055**	**125920037**

ALIND SWITCH GEAR LIMITED

BALANCE SHEET FOR THE YEAR

2015-2016 TO 2019-2020

PARTICULARS	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020
Equity and Liabilities					
Shareholders fund					
Share capital	1155858964	1478708964	1786308964	1814963964	1814963964
Reserves and surplus	-4904790009	494364357	-2192715587	-1727547294	1605215130
	-3748931045	**-3464934613**	**406406623**	**87416670**	**209748834**
Non current Liabilities					
Long term borrowings	3564566727	3302562726	234670480	234670480	247305480
Long term provision	25488553	26376341	33636469	41945125	48121094
			268306949	276615605	295426574
Current Liabilities					
Short term borrowings	73534560	73534560	71182642	71182642	71182642
Trade payables	39973329	37430532	67105914	100610684	11253756
Other financial liabilities	-	-	-	6860000	-
Other current liabilities	311425058	306118960	236430033	244375720	247664567
Current tax liabilities	-	-	-	-	18060080
Short term provision	8349586	9302517	10903395	9626878	14309154
TOTAL			385621984	494395925	463753800
TotalEquityandLiabilities	**274406768**	**290391023**	**247522310**	**858428199**	**968929209**
Non current Assets					
Property,plantandequipment	12695519	20359994	26971294	46187804	52534465
Capital work in progress	807500	34850	-	-	-
Non current investments	5774518	5874518	13079297	91566482	20797615
Long term loans and advance	116946088	119409547	7451733	10347619	9854407

Defered Tax	-	-	4659844	335957288	357165090
	136323626	**145678909**	**52162168**	**484059192**	**440351576**
Current Asset					
Investments	66693847	76462006	939440391	174873890	206550576
Trade receivables	21549842	25178052	54254275	84133211	177330562
Cash and bank balance	40569558	30983501	35958750	93345720	126850318
Short term loans and advances	9269896	12088555	-	-	-
Other current assets	-	-	11206726	22016186	17845961
	138083143	**144712114**	**195360142**	**374369007**	**528577634**
TOTAL ASSETS	**274406768**	**290391023**	**247522310**	**858428199**	**968929209**