A STUDY ON FIXED ASSETS MANAGEMENT

AT

ULTRATECH CEMENT LIMITED

Submitted

by

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H.T.No.1302-21-672-029

Project submitted in partial fulfilment for the award of the Degree of

MASTER OF BUSINESS ADMINISTRATION

By

Department of Business Administration

Aurora's PG College (MBA)

(Affiliated to Osmania University)

Ramanthapur, Hyderabad

2021 – 2023

DECLARATION

I hereby declare that this Project Report titled "**A Study on Fixed Assets Management at Ultratech Cement Limited"** submitted by me to the Department of Business Management, O.U., Hyderabad, is a bonafide work undertaken by me and it is not submitted to any other University or Institution for the award of any degree diploma / certificate or published any time before.

Laudiya Saikumar Nayak Signature of the Student

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CERTIFICATE

This is to certify that the Project Report entitled "A Study on Fixed Assets Management" submitted in partial fulfilment for the award of MBA Programme of Department of Business Management, Aurora's PG College, Ramanthapur, affiliated to Osmania University, Hyderabad, was carried out by **LAUDIYA SAIKUMAR NAYAK** H.T.No. **1302-21-672-029** under our guidance. This has not been submitted to any other University or Institution for the award of any degree/diploma/certificate.

Mr T.PRASAD	**Dr CH.SATISH KUMAR**	**Dr M.MADHAVI**
Internal Guide	Head of the Department	Principal

FM/ULTRATECH/2023

TO WHOM SO EVER IT MAY CONCERN

This is to certify that the project entitled **"A STUDY ON FIXED ASSETS MANAGEMENT"** submitted by Mr. **LAUDIYA SAIKUMAR NAYAK (**H.T. NO: **1302-21-672-029)** in partial fulfillment for the award of the degree of **MBA,** is a Bonafide work carried out by his in **ULTRATECH CEMENT LIMITED.** Hyderabad, from 45 days under our guidance and supervision.

He has completed the assigned project as per requirement within the time frame;

His performance during the period work was found to be excellent.

We wish all the best in his future endeavors.

For UltraTech Cement Ltd.

M SNEHA REDDY
Asst. Finance Manager

ACKNOWLEDGEMENT

This acknowledgement is a humble attempt to earnestly thank all those who are directly or indirectly involved with my project and were of immense help to me. First of all, I would like to express my sincere thanks to the Director of college **Dr. M. Madhavi** and H.O.D of MBA department, **Dr.Ch.Satish Kumar** for giving me this opportunity to carry out the project. I acknowledge with greatest courtesy the efforts taken by **Mr. T. Prasad**, my internal guide, who took genuine interest in my project and helped me, understand the basic concepts of the project when necessary.

Laudiya Saikumar Nayak

ABSTRACT

A fixed asset that runs a full cycle of existence in a firm has three stages of life for the purpose of management. These stages are the funding stage, the preservation stage and the abandonment stage. The stage of funding concentrates mainly on apprising the economic viability or otherwise of the asset making use of techniques suck at ting rate of return payback period, and the discounted cash flow methods. The preservation stage concentrates on maintenance techniques to keep the asset in good condition and sup form Repairs and regular checking are the main techniques to employ at this stage Costs of normal repairs and services shall be treated judiciously and expeditiously. If the cut of require and services that upgrades the value of the asset is high, it may therefore be capo lice. The final stage in fixed asset management in the abandonment age. The main jobs of the organizing's management at this stage are the determination of the purchase price and identification of the preferred buyers. The paper examines all the three stages of Road asset management and surmises that the use of management techniques is necessary at each of the stages in the full life cycle of fixed asset.

Fixed asset management is an accounting process that seeks so back fixed assets for the purpose of financial accounting preventive maintenance theft deterrence Many organizations face a significant challenge to track the location, quantity, Condon, maintenance and depreciation stars of their fixed assets popular approach to tracking ed assets unites serial numbers aster tags, often who bar codes for easy and accurate reading Periodically the owner of the assets can take inventory with a mobile barcode reader and then produce a report.

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CHAPTER-1
INTRODUCTION

1.1 INTRODUCTION

Fixed Assets are the assets held with the intention of being used on continuous basis for the purpose of producing or providing goods or services and are not held for resale in the normal course of business.

E.g.: Land and Buildings, Plant and Machinery, Motor Vehicles, Furniture and Fixtures.

Valuation of fixed assets is important to have fair measure of profit or loss and financial position of the concern. Fixed assets are meant for use for many years. The value of these assets decreases with their use or with time or many other reasons. A portion of fixed assets are reduced by usage are converted into cash through charging depreciation. For correct measurement of income, proper measurement of depreciation is essential, as depreciation constitutes a Part of total cost of production.

Financial transactions are recorded in the books, keeping in view the going concern aspect of the business unit. In going concern aspect, it is assumed that the business unit has reasonable expectation of continuing the business for a profit for an indefinite period of time. This assumption provides much of the justification for recording fixed assets at original cost and depreciating them in a systematic manner without reference to their current realizable value.

It is useless to record the fixed assets in the balance sheet at their estimated realizable values if there is no immediate expectation of selling them. So, they are shown at their book value (i.e., Cost –Depreciation) and not at current realizable value. The market value of the fixed assets may change with the passage of time, but for accounting purpose it continues to be shown in the books in historical cost.

The cost concept of accounting states that depreciation calculated on the basis of historical cost of old assets is usually lower than the amount calculated at current value/ replacement value. These results in more profits, which if distributed in full will lead to reduction in capital.

ACCOUNTING STANDARD FOR FIXED ASSETS (AS-10)

AS-10 on Accounting for Fixed Assets has been made mandatory with effect from 01.04.2091. According to the AS-10, "**Fixed Asset** is an asset held with the intention of being used on continuous basis for the purpose of producing or providing goods or services and is not held for resale in the normal course of action". *Gross book value* of fixed asset is its historical cost or other amount substituted for historical costs in the books of accounts or financial statements. When the amount of depreciation is deducted from gross book value then it is *Net Book Value*.

Cost of Fixed Assets should consist of purchase price including import duties etc., and attributable cost of bringing the asset to its working condition for its intended use. Financing costs relating to borrowed funds attributable to construction or acquisition of fixed assets for the period up to the acquisition or completion. Expenditure incurred in start-up and commissioning of the project including test runs.

Revaluation of assets: Fixed assets may be restated in the value with the help of appraisal under taken by the competent values. Such valuation of assets is called revaluation.

FIXED ASSETS MANAGEMENT CYCLE

The fixed assets management cycle is the cycle of activities from the acquisition of the asset to the final disposition of the assets at the end of their useful life. The cycle has 7 steps:

Acquisition: The cycle begins with the acquisition, purchase, gift or otherwise, of an asset and the determination that the asset is to be capitalized. To be capitalized the asset has to meet the agency's capitalization limit and have a useful life of one year or more.

Receiving: The asset is formally received and accepted by the agency. Receipt may be verified by entry into an automated purchasing system or by hard copy document. In the case of donated fixed assets, receipt can be verified by a letter to the donor.

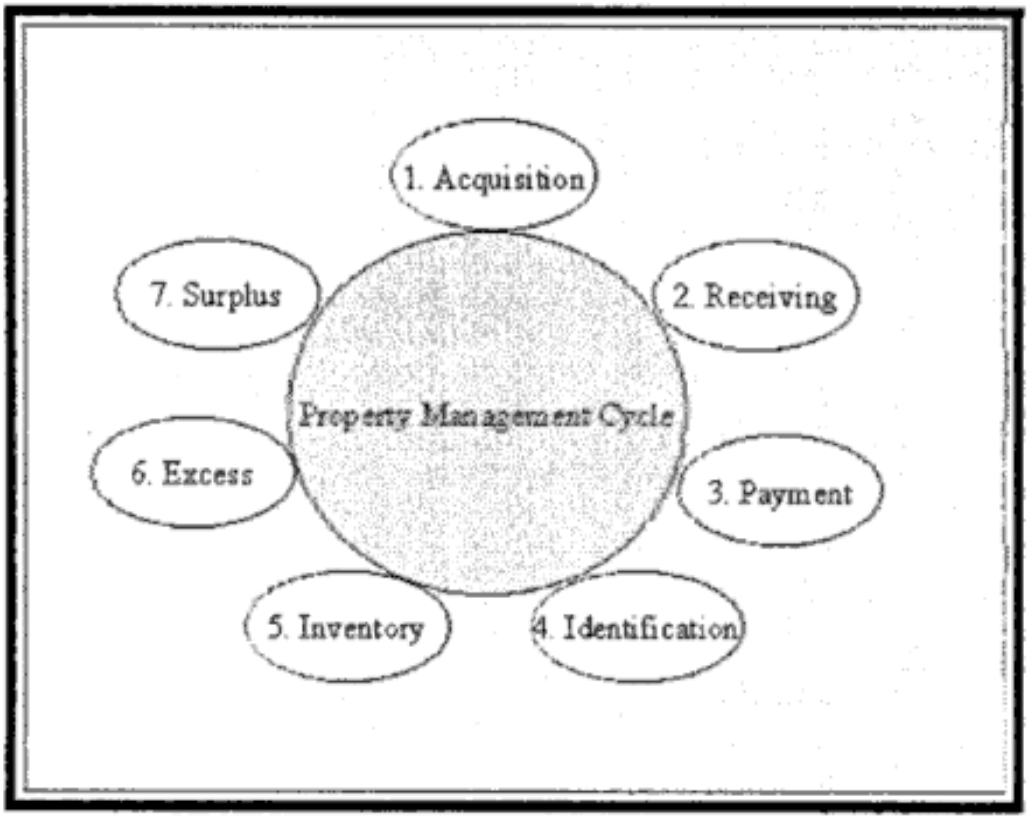
Payment: Payment is made for the asset according to the terms of the purchase order or recognition of acceptance of a gift to the donor. The payment includes the acquisition cost, freight and all other costs to put the asset. Acquisition cost of donated fixed assets is determined by its fair market value.

Identification: The asset is identified as an asset, tagged or otherwise identified and entered into the fixed assets management inventory system. Assets are identified with a permanently attached identification tag, etching or by painting on the identification number.

Inventory: The longest step in the cycle. The asset is used over its useful life. Assets are inventoried and accounted for during this step until they are no longer needed. The agency's policies and procedures determine the inventory interval.

Excess: the asset is declared as excess to the user's needs. The asset may be transferred to another user where it will continue to be used, accounted for and inventoried. Assets may be declared as excess more than once until the asset is no longer needed.

Surplus: The last step in the fixed assets management cycle. The asset is declared to be surplus property and to have no further value to the agency. The asset is disposed of by sale or discarding depending on the residual value. Sale can be by auction, sealed bid, spot sale, or through a sales store.



FIXED ASSETS MANAGEMENT CYCLE

1.2 NEED OF THE STUDY

As fixed assets play an important role in company's objectives. These fixed are not convertible or not liquid able over a period of time. The owner's funds and long-term liabilities are invested in fixed assets. Since, fixed assets play dominant role in the business and the firm has utilization of fixed assets. So, ratio contributes in analyzing and evaluating the performance of the business.

If firms fixed assets are idle and not utilized properly it affects the long-term sustainability of the firm, which may affect liquidity and solvency and profitability positions of the company. The idle of fixed assets leads to a tremendous loss in financial cost and intangible cost associate of it. So, this will lead to evaluation of fixed assets performance.

Comparing with similar company and comparison with industry standards.

Fixed assets are the assets which cannot be liquidated into cash within one year. The huge amounts of funds of the company are invested in these assets. Every year company invests an additional fund in these assets directly or indirectly. The survival and other objectives of the company depend on operating performance of management i.e., effective utilization of these assets.

Firm has evaluated the performance, of fixed assets with proportion of capital employed on net assets turnover and other parameters which are helpful for evaluating the performance of fixed assets.

1.3 SCOPE OF THE STUDY

The project is covered on fixed assets of **ULTRATECH CEMENT LTD.** drawn from annual reports of the company. The subject matter is limited to fixed assets, its analysis and its performance but not to any other areas of accounting corporate, marketing and financial matters. The period of study confined for a period of 5 years i.e., 2017-2018 to 2021-2022.

1.4 OBJECTIVES OF THE STUDY

The following are the objectives of the study

1. To study the amount of capital expenditure made by the **ULTRATECH CEMENT LTD.**
2. To analyze the fixed assets turnover of **ULTRATECH CEMENT LTD.**
3. The study depreciation and method of depreciation adopted by **ULTRATECH CEMENT LTD.**
4. To examine the amount of finance made by long-term liabilities and owners funds towards fixed assets.
5. To study whether fixed assets are giving adequate returns to the company.

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1.5 RESEARCH METHODOLOGY

Research methodology is the specific procedures or techniques used to identify, select, process, and analyze information about a topic. In a research paper, the methodology section allows the reader to critically evaluate a study's overall validity and reliability.

The data used for the analysis and interpretation is from annual reports of the company i.e., secondary forms of data. Ratio analysis is used for calculation purpose.

The project is presented using tables, graphs and with their interpretations. No survey is undertaken or observation the study is conducted by evaluating fixed assets performance of the company.

DATA COLLECTION METHODS

There are two sources of data collection method, they are Primary and secondary data.

The Present study is based on the secondary data.

Secondary method: The secondary data collection method includes:

- **Websites**
- **Journals**
- **Text books**

1.6 TOOLS AND TECHNIQUES

1. FIXED ASSETS TO NET WORTH RATIO

This ratio establishes the relationship between fixed assets and net worth.

Net worth = share capital + reserves and surplus + retained earnings

Fixed assets to net worth ratio =Fixed assets / Net worth

2. FIXED ASSET RATIO:

This ratio explains whether the firm has raised adequate long-term fund to meet its fixed assets required and is calculated as under:

= Fixed assets (after depreciation) / Capital employed

3. FIXED ASSETS AS A PERCENTAGE TO CURRENT LIABILITIES:

The ratio measures the relationship between fixed assets and the funded debts and is very useful to the long-term erection. The ratio can be calculated as shown below

Fixed assets as a percent of current liabilities=Fixed Assets / Current liabilities

4 TOTAL ASSETS TURN OVER RATIO:

The ratio is calculated by dividing the net sales by the value of total assets that is (net sales/total investment) or (sales/total investment). A high ratio is an indicator of over trading of total assets while a low ratio reveals idle capacity. The traditional standard for the ratio is two times.

= Net sales/Total Assets

5. FIXED ASSETS TURNOVER RATIO:

The ratio expresses the no. of times fixed assets are being turned over in a stated period. It is calculated under.

= Net sales/ Net fixed assets (after depreciation)

6. RETURN ON TOTAL ASSETS: –

= Profit after tax / Total assets

7. TOTAL INVESTMENT TURN OVER RATIO:

The total investment turnover ratio can be calculated by the formula as given under

Total investment ratio = Net sales / Total investment

CHAPTER-2
REVIEW OF LITERATURE

2.1 THEORETICAL FRAMEWORK

Fixed asset, also known as a **non-current asset** or as **property, plant, and equipment** (PP&E), is a term used in accounting for assets and property which cannot easily be converted into cash. This can be compared with current assets such as cash or bank accounts, which are described as liquid assets. In most cases, only tangible assets are referred to as fixed.

Moreover, a fixed/non-current asset can also be defined as an asset not directly sold to a firm's consumers/end-users. As an example, a baking firm's current assets would be its inventory (in this case, flour, yeast, etc.), the value of sales owed to the firm via credit (i.e. debtors or accounts receivable), cash held in the bank, etc. Its non-current assets would be the oven used to bake bread, motor vehicles used to transport deliveries, cash registers used to handle cash payments, etc. Each aforementioned non-current asset is not sold directly to consumers.

These are items of value which the organization has bought and will use for an extended period of time; fixed assets normally include items such as land and buildings, motor vehicles, furniture, office equipment, computers, fixtures and fittings, and plant and machinery. These often receive favorable tax treatment (depreciation allowance) over short-term assets. According to International Accounting Standard (IAS) 20, Fixed Assets are assets whose future economic benefit is probable to flow into the entity, whose cost can be measured reliably.

It is pertinent to note that the cost of a fixed asset is its purchase price, including import duties and other deductible trade discounts and rebates. In addition, cost attributable to bringing and installing the asset in its needed location and the initial estimate of dismantling and removing the item if they are eventually no longer needed on the location.

The primary objective of a business entity is to make profit and increase the wealth of its owners. In the attainment of this objective, it is required that the management will exercise due care and diligence in applying the basic accounting concept of “Matching Concept”. Matching concept is simply matching the expenses of a period against the revenues of the same period.

The use of assets in the generation of revenue is usually more than a year- that is long term. It is therefore obligatory that in order to accurately determine the net income or profit for a period depreciation is charged on the total value of asset that contributed to the revenue for the period in consideration and charge against the same revenue of the same period. This is essential in the prudent reporting of the net revenue for the entity in the period.

Net book value of an asset is basically the difference between the historical cost of that asset and it associated depreciation. From the foregoing, it is apparent that in order to report a true and fair position of the financial jurisprudence of an entity it is relatable to record and report the value of fixed assets at its net book value. Apart from the fact that it is enshrined in Standard Accounting Statement (SAS) 3 and IAS 20 that value of asset should be carried at the net book value, it is the best way of consciously presenting the value of assets to the owners of the business and potential investor.

Depreciating a Fixed Asset

Depreciation is, simply put, the expense generated by the use of an asset. It is the wear and tear of an asset or diminution in the historical value owing to usage. Further to this; it is the cost of the asset less any salvage value over its estimated useful life. It is an expense because it is matched against the revenue generated through the use of the same asset. Depreciation is usually spread over the economic useful life of an asset because it is regarded as the cost of an asset absorbed over its useful life. Invariably the depreciation expense is charged against the revenue generated through the use of the asset. The method of depreciation to be adopted is best left for the management to decide in consideration to the peculiarity of the business, prevailing economic condition of the assets and existing accounting guideline and principles as implied in the organizational policies.

It is worth noting that not all fixed assets depreciate in value year-over-year. Land and buildings, for example, may often increase in value depending on local real-estate conditions.

A long-term tangible piece of property that a firm owns and uses in the production of its income and is not expected to be consumed or converted into cash any sooner than at least one year's time.

Fixed assets are sometimes collectively referred to as "plant".

- ## Balance sheet - accounting for fixed assets

Introduction

An important distinction is made in accounting between "current assets" and " "fixed assets".

Current assets are those that form part of the circulating capital of a business. They are replaced frequently or converted into cash during the course of trading. The most common current assets are stocks, trade debtors, and cash.

Compare current assets with fixed assets. A **fixed asset** is an asset of a business **intended for continuing use**, rather than a short-term, temporary asset such as stocks.

Fixed assets must be classified in a company's balance sheet as **intangible, tangible, or investments.** Examples of intangible assets include goodwill, patents, and trademarks. Examples of tangible fixed assets include land and buildings, plant and machinery, fixtures and fittings, motor vehicles and IT equipment.

How should the changing value of a fixed asset be reflected in a company's accounts?

The benefits that a business obtains from a fixed asset extend over several years. For example, a company may use the same piece of production machinery for many years, whereas a company-owned motor car used by a salesman probably has a shorter useful life.

By accepting that the life of a fixed asset is limited, the accounts of a business need to recognize the benefits of the fixed asset as it is "consumed" over several years.

This consumption of a fixed asset is referred to as **depreciation**.

Definition of depreciation

Financial Reporting Standard 20 (covering the accounting for tangible fixed assets) defines depreciation as follows:

"The wearing out, using up, or other reduction in the useful economic life of a tangible fixed asset whether arising from use, effluxion of time or obsolescence through either change in technology or demand for goods and services produced by the asset.'

A portion of the benefits of the fixed asset will be used up or consumed in each accounting period of its life in order to generate revenue. To calculate profit for a period, it is necessary to match expenses with the revenues they help earn.

In determining the expenses for a period, it is therefore important to include an amount to represent the consumption of fixed assets during that period (that is, depreciation).

In essence, depreciation involves allocating the cost of the fixed asset (less any residual value) over its useful life. To calculate the depreciation charge for an accounting period, the following factors are relevant:

- the cost of the fixed asset;

- the (estimated) useful life of the asset;

- the (estimated) residual value of the asset.

What is the relevant cost of a fixed asset?

The cost of a fixed asset includes all amounts incurred to acquire the asset and any amounts that can be directly attributable to bringing the asset into working condition.

Directly attributable costs may include:

- Delivery costs

- Costs associated with acquiring the asset such as stamp duty and import duties

- Costs of preparing the site for installation of the asset

- Professional fees, such as legal fees and architects' fees

Note that general overhead costs or administration costs would not be included as part of the total costs of a fixed asset (e.g. the costs of the factory building in which the asset is kept, or the cost of the maintenance team who keep the asset in good working condition)

The cost of subsequent expenditure on a fixed asset will be added to the cost of the asset provided that this expenditure enhances the benefits of the fixed asset or restores any benefits consumed.

This means that major improvements or a major overhaul may be capitalized and included as part of the cost of the asset in the accounts.

However, the costs of repairs or overhauls that are carried out simply to maintain existing performance will be treated as expenses of the accounting period in which the work is done, and charged in full as an expense in that period.

What is the Useful Life of a fixed asset?

An asset may be seen as having a physical life and an economic life.

Most fixed assets suffer physical deterioration through usage and the passage of time. Although care and maintenance may succeed in extending the physical life of an asset, typically it will, eventually, reach a condition where the benefits have been exhausted. However, a business may not wish to keep an asset until the end of its physical life. There may be a point when it becomes uneconomic to continue to use the asset even though there is still some physical life left.

The economic life of the asset will be determined by such factors as technological progress and changes in demand. For purposes of calculating depreciation, it is the estimated economic life rather than the potential physical life of the fixed asset that is used.

What about the Residual Value of a fixed asset?

At the end of the useful life of a fixed asset the business will dispose of it and any amounts received from the disposal will represent its residual value. This, again, may be difficult to estimate in practice. However, an estimate has to be made. If it is unlikely to be a significant amount, a residual value of zero will be assumed.

The cost of a fixed asset less its estimated residual value represents the total amount to be depreciated over its estimated useful life.

Fixed Asset Controls

This section contains two dozen controls that can be applied to the acquisition, valuation, and disposal of fixed assets. Of this group, 18 are considered primary controls and are included in the flowchart in figure "System of Fixed Asset Controls". The remaining 16 controls either do not fit into the various fixed asset transaction flows or are considered secondary controls that can bolster the primary controls as needed.

In essence, the system of controls for an asset acquisition requires that initial funding approval come from the annual budget, as well as additional approval through a formal capital investment form just prior to the actual acquisition. There should also be a post installation analysis of how actual project results compared to the estimates shown in the original capital investment form. The key controls used once an asset is installed are to tag it, assign specific responsibility for it, and ensure that any asset transfers are approved by the shipping and receiving managers. Finally, asset disposition controls call for regular disposition reviews to ensure that dispositions occur while assets still retain some resale value, a formal disposition approval process, and proper tracking of any resulting receipts.

System of Fixed Asset Controls

The controls noted in the flowchart are described at greater length next, in sequence from the top of the flowchart to the bottom for each of the three types of fixed asset transactions.

- Obtain funding approval through the annual budgeting process. The annual budgeting process is an intensive review of overall company operations as well as of how capital expenditures are needed to fulfill the company's strategic direction. As such, capital expenditure requests should be included in the annual budget, thereby ensuring that they will be analyzed in some detail. Expenditure requests included in the approved budget still should be subjected to some additional approval at the point of actual expenditure, to ensure that they are still needed. However, expenditure requests not included in the approved budget should be subjected to a considerably higher level of analysis and approval, to ensure that there is a justifiable need for them.

- Require a signed capital investment approval form prior to purchase. Given the significant amount of funds usually needed to acquire a fixed asset, there always should be a formal approval process before a purchase order is issued. An example is shown in figure below. Depending on the size of the acquisition, a number of approval signatures may be required, extending up to the company president or even the chair of the board of directors.
- Use prenumbered acquisition and disposal forms. If the company uses a manual system for fixed asset acquisitions and disposals, then it should acquire a set of prenumbered acquisition and disposal forms. By doing so, it can keep track of form numbers to ensure that none is lost prior to completion. This is also a good way to ensure that employees do not attempt to submit multiple acquisition authorization forms for the same asset, allowing them to order duplicate assets and make off with the extra items. For this to be a fully functional control, someone must be assigned the task of storing the forms in a secure location and monitoring which form numbers have been released for use.
- Require return on investment calculation prior to approval. Given the considerable size of some fixed asset investments, a reasonable control is to calculate the estimated return on investment to see if the investment exceeds the corporate hurdle rate. The return calculation can involve a variety of approaches, such as the payback period, net present value, or internal rate of return. All three calculations are included in the capital investment proposal form shown in figure below.
- Conduct a post completion project analysis. Managers have been known to make overly optimistic projections in order to make favorable cases for asset acquisitions. This issue can be mitigated by conducting regular reviews of the results of asset acquisitions in

comparison to initial predictions and then tracing these findings back to the initiating managers. This approach can also be used at various milestones during the construction of an asset to ensure that costs incurred match original projections.

- Compare fixed asset serial numbers to the existing serial number database. There is a possibility that employees are acquiring assets, selling them to the company, then stealing the assets and selling them to the company again. To spot this behavior, always enter the serial number of each acquired asset in the fixed asset master file, and then run a report comparing serial numbers for all assets to see if there are duplicate serial numbers on record.
- Independently review fixed asset master file additions. A number of downstream errors can arise when fixed asset information is entered incorrectly in the fixed asset master file. For example, an incorrect asset description can result in an incorrect asset classification, which in turn may result in an incorrect depreciation calculation. Similarly, an incorrect asset location code can result in the subsequent inability to locate the physical asset, which in turn may result in an improper asset disposal transaction. Further, an incorrect acquisition price may result in an incorrect depreciation calculation. To mitigate the risk of all these errors, have a second person review all new entries to the fixed asset master file for accuracy.
- Affix an identification plate to all fixed assets. If a company acquires assets that are not easily differentiated, then it is useful to affix an identification plate to each one to assist in later audits. The identification plate can be a metal tag if durability is an issue, or can be a laminated bar code tag for easy scanning, or even a radio frequency (RFID) tag. The person responsible for tagging should record the tag number and asset location in the fixed asset master file.
- Assign responsibility for assets. There is a significant risk that assets will not be tracked carefully through the company once they are acquired. To avoid this, formally assign responsibility for each asset to the department manager whose staff uses the asset, and send all managers a quarterly notification of what assets are under their control. Even better, persuade the human resources manager to include “asset control” as a line item in the formal performance review for all managers.
- *Use a formal transfer document to shift asset locations*. If the preceding control is implemented that assigns responsibility for specific assets to department managers, then the transfer of an asset to a different department calls for the formal approval of

the sending and receiving department managers. Otherwise, managers can claim that assets are being shifted without their approval, so they have no responsibility for the assets.

- Conduct regular asset disposition reviews. Fixed assets decline in value over time, so it is essential to conduct a regular review to determine if any assets should be disposed of before they lose their resale value. This review should be conducted at least annually, and should include representatives from the accounting, purchasing, and user departments. An alternative approach is to create capacity utilization metrics (which is most easily obtained for production equipment) and report on utilization levels as part of the standard monthly management reporting package; this tends to result in more immediate decisions to eliminate unused equipment.
- Require a signed capital asset disposition form prior to disposition. There is a risk that employees could sell off assets at below-market rates or disposition assets for which an alternative in-house use had been planned. Also, if assets are informally disposed of, the accounting staff probably will not be notified and so will continue to depreciate an asset no longer owned by the company, rather than writing it off. To avoid these problems, require the completion of a signed capital asset disposition form, such as the one shown in figure below.
- Verify that cash receipts from asset sales are handled properly. Employees may sell a company's assets, pocket the proceeds, and report to the company that the asset actually was scrapped. This control issue can be reduced by requiring that a bill of sale or receipt from a scrapping company accompany the file for every asset that has been disposed of.

The preceding controls were primary ones required as part of the basic fixed asset transaction flows. In addition, the next ancillary controls either are general controls that operate outside of any specific transaction or are designed to provide additional risk mitigation.

- Segregate responsibilities related to fixed assets. If the person purchasing an asset also receives it, there is a considerable risk that the person will alter the purchasing documents to eliminate evidence of the receipt and then steal the asset. The same

concern applies to several aspects of fixed assets transactions. A control over this situation is to segregate these types of responsibilities:

- Fixed asset acquisition
- Fixed asset transaction recording
- Custody of the fixed asset
- Fixed asset disposal
- Reconciliation of physical assets to accounting records

- Restrict access to the fixed asset master file. The fixed asset master file contains all baseline information about an asset and is the source document for depreciation calculations as well as asset location information. If people were to gain illicit access to this file, they could make modifications to change depreciation calculations (thereby changing financial results) as well as modify locations (possibly resulting in theft of the assets). To avoid these problems, always use password controls to restrict access to the fixed asset master file.
- *Restrict facility access*. If the company owns fixed assets that can be easily moved and have a significant resale value, there is a risk that they will be stolen. If so, consider restricting access to the building during nonwork hours and hire a security staff to patrol the perimeter or at least the exits.
- Install an alarm system to detect RFID-tagged assets. If the company has especially valuable fixed assets that can be moved, then consider affixing a RFID tag to each one and then installing a transceiver near every building exit that will trigger an alarm if the RFID tag passes by the transceiver.
- Reconcile fixed asset additions with capital expenditure authorizations. A good detective control to ensure that all acquisitions have been authorized properly is to periodically reconcile all fixed asset additions to the file of approved capital expenditure authorizations. Any acquisitions for which there is no authorization paperwork are then flagged for additional review, typically including reporting of the control breach to management.
- Increase the capitalization limit. A key problem with fixed asset tracking is that it involves a considerable amount of additional paperwork as well as ongoing depreciation calculations, which may so overwhelm the accounting staff that they are struggling to keep up with the paperwork rather than focusing on proper control of the assets themselves. This recommended control may seem counterintuitive, but

increasing the capitalization limit reduces the number of assets designated as fixed assets, thereby allowing the accounting staff to focus its attention on the proper approval, tracking, and disposition of a smaller number of large-dollar assets. Thus, oversight of smaller assets is abandoned in favor of greater inspection of large-dollar asset transactions.

- Conduct a periodic fixed asset audit**.** The internal audit staff should schedule a periodic audit of fixed assets, reconciling the on-hand inventory to the accounting records. Given the considerable quantity of fixed assets that many companies maintain, it is acceptable to focus on the 20 percent of fixed assets that typically account for 80 percent of the invested cost of all fixed assets. An example of a report suitable for a fixed asset audit is shown in figure below.
- Verify the fair value assumptions on dissimilar asset exchanges. Accounting rules allow one to record a gain or loss on the exchange of dissimilar assets. Since this calculation is based on the fair value of the assets involved (which is not stated in the accounting records), the possibility exists for someone to artificially create an asset fair value that

  will result in a gain or loss. This situation can be avoided by having an outside appraiser review the fair value assumptions used in this type of transaction.

- Test for asset impairment. There are a variety of circumstances under which the net book value of an asset should be reduced to its fair value, which can result in significant reductions in the recorded value of an asset. This test requires a significant knowledge of the types of markets in which a company operates, the regulations to which it is subject, and the need for its products within those markets. Consequently, only a knowledgeable person who is at least at the level of a controller should be relied on to detect the presence of assets whose values are likely to have been impaired.
- Verify that correct depreciation calculations are being made. Though there is no potential loss of assets if incorrect depreciation calculations are being made, it can result in an embarrassing adjustment to a company's financial statements at some point in the future. This control should include a comparison of capitalized items to the official corporate capitalization limit to ensure that items are not being inappropriately capitalized and depreciated. The control should also include a review of the asset categories in which each individual asset has been recorded, to ensure that an asset has not been misclassified and therefore incorrectly depreciated.

- Verify that all changes in asset retirement obligation assumptions are authorized. A company can artificially increase its short-term profitability by altering the assumed amount of future cash flows associated with its asset retirement obligations. Since downward revisions to these assumptions will be reflected in the current period's income statement as a gain, any changes to these assumptions should be approved prior to implementation.

MANAGEMENT OF FIXED ASSETS

The selection of various fixed assets required for creating the desired production facilities and the decision regarding the determination of level of fixed assets in the capital structure is an important decision for the company to take for the smooth running of business. The decisions relating to fixed assets involve huge funds for long period of time and are generally of irreversible nature affecting the long profitability of the business. Thus, management of fixed asset is of vital importance to any organization.

The process of Fixed Assets Management involves:

1. Selection of most worthy projects from the different alternatives of fixed assets.
2. Arranging the requisite funds/capital for the same.

The first important consideration is to acquire only that amount of fixed assets, which will be just sufficient to ensure smooth and efficient running of the business. In some cases, it may be economical to buy certain assets in a lot size. Another important consideration to be kept in mind is possible increase in the demand of the firm's product needs the expansion of activities. Hence a firm should have that amount of fixed assets, which could adjust to increase demand.

Another aspect of fixed asset's management is that a firm must ensure buffer stocks of certain essential equipment's to ensure uninterrupted production in the events of emergencies. Sometimes, there may some breakdown in some equipment's or services affecting the entire production. It is always better to have some alternative arrangements to deal with such situations but at the same time the cost of carrying such buffer stock should also be evaluated. Efforts should also be made to minimize the level of buffer stock of fixed assets so that there will be maximum utilization during that period.

Fixed assets management is an accounting process that seeks to track ,Fixed assets for the purposes of financial accounting, preventive Maintenance, and theft deterrence. Many organizations face a significant challenge to track the location, quantity, condition, maintenance and depreciation status of their fixed assets. A popular approach to tracking fixed assets utilizes serial numbered Asset Tags, often with bar codes for easy and accurate reading. Periodically, the owner of the assets can take inventory with a mobile Barcode reader and then produce a report. Off-the-shelf software packages for fixed asset management are marketed to businesses small and large. Some Enterprise Resource Planning Systems are available with fixed assets modules.

Investment management is the professional management of various securities (shares, bonds etc.) and other assets (e.g. real estate), to meet specified investment goals for the benefit of the investors. Investors may be institutions (insurance companies, pension funds, corporations etc.) or private investors (both directly via investment contracts and more commonly via collective investment schemes e.g. mutual funds).

The term **asset management** is often used to refer to the investment management of collective investments, whilst the more generic **fund**

Management may refer to all forms of institutional investment as well as investment management for private investors. Investment managers who specialize in *advisory* or discretionary management on behalf of (normally wealthy) private investors may often refer to their services as

Wealth management or **portfolio management** often within the context of so-called "private banking". The provision of 'investment management services' includes elements of financial analysis, asset selection, stock selection, plan implementation and ongoing monitoring of investments. Investment management is a large and important global industry in its own right responsible for caretaking of trillions of dollars, euro's, pounds and yen. Coming under the remit of financial services many of the world's largest companies are at least in part **investment managers** and employ millions of staff and create billions in revenue.

2.2 LITERATURE REVIEW

ARTICLE 1

TITLE : Efficiently Inefficient Markets for Assets and Asset Management

AUTHOR : NicolaeGârleanu, & LasseHeje Pedersen

JOURNAL : The Journal of Finance, Volume73, Issue4 August 2018.

ABSTRACT : It consider a model where investors can invest directly or search for an asset manager, information about assets is costly, and manager's charge an endogenous fee. The efficiency of asset prices is linked to the efficiency of the asset management market: if investors can find managers more easily, more money is allocated to active management, fees are lower, and asset prices are more efficient. Informed managers outperform after fees, uninformed managers underperform, while the average manager's performance depends on the number of "noise allocators." Small investors should remain uninformed, but large and sophisticated investors benefit from searching for informed active managers since their search cost is low relative to capital. Hence, managers with larger and more sophisticated investors are expected to outperformer.

ARTICLE 2

TITLE : Asset Management Within Commercial Banking Groups: International Evidence.

AUTHOR : Pedro piers, Pedro Matos, Miguel A. Ferreira

JOURNAL : The Journal of Finance, Volume73, Issue5 October 2018 Pages 2181-2227.

ABSTRACT: Fixed assets, also known as "tangible assets “or Property, Plant, And Equipment (PP&E), is a term used in accounting for assets and property that cannot easily be converted into cash. This can be compared with current assets such as cash or bank accounts, which are described as liquid assets. In most cases, only tangible assets are referred to as fixed. IAS 16 (International Accounting Standard) defines Fixed Assets as assets whose future economic benefit is probable to flow into the entity, whose cost can be measured reliably. Moreover, a fixed/non-current asset can also be defined as an asset not directly sold to a firm's consumers/end-users. Its non-current assets would be the oven used to bake bread, motor vehicles used to transport deliveries, cash registers used to handle cash payments, etc. While these non-current assets have value, they are not directly sold to consumers and cannot be easily converted to cash.

ARTICLE 3

TITLE : A Comparatives Study on Fixed Asset Management of Indian media Entertainment Companies

AUTHOR : Vivek Sharma, &Prerna Sharma.

JOURNAL : International Journal of Management Prudence, New Delhi Vol. 6, Iss. 1, (2014): n/a.

ABSTRACT: This paper is an attempt to analyses and examine the management of fixed asset in case three Indian media & entertainment companies. The procurement and management of fixed assets can be said to be a reflector of the managerial as we as financial capabilities of any business. Adequacy of depreciation and proportion of fixed asset in total asset pool is also been a keen question to be answered. Test of significance of correlation has been used in the study to check the accuracy of the assumptions drawn.

ARTICLE4

TITLE : The Design and Implement of Management System for Power Fixed Asset Based on Activity

AUTHOR : Renle Huang

JOURNAL : 2015 4th International Conference on Computer Science and Network Technology (ICCSNT), Harbin, 2015, pp. 378-380, Doi: 10.1109/ICCSNT.2015.7490773 .

ABSTRACT: The paper firstly introduces work for technology and activity work flow frame work, through the description of the fixed asset management in the power industry, the system is wholly designed. Component based principle, object-oriented development mode on the Three-tier architecture in java EE (Java Enterprise Edition) were used in the system. For the complexity in the fixed asset management of electric power industry, the system strives to a comprehensive and detailed, simple and convenient operation.

ARTICLE-5

TITLE : Evaluation of the Effect of Non-Current Fixed Asset on Profitability Asset Management Efficiency

AUTHOR : Alexandra v. Lubyanaya

JOURNAL: International *Journal of Environmental and Science Education,* 2016, VOL.11, NO. 15, 7745-7753.

ABSTRACT: The purpose of the article is to investigate the problem, which stems from non-current fixed asset affecting profitability and asset management efficiency. Tangible assets, intangible asset and financial assets are all included in non-current fixed assets. The aim of the research is to identify the impact of estimate and valuation in accounting.

ARTICLE – 6

TITLE : Fixed assets management of Larsen & Toubro: stability vs stagnancy

AUTHOR : Sandeep Goel,

JOURNAL : Kabir Hassan, Accounting Research Journal, 2012

ABSTRACT**:** This paper aims to analyse the fixed assets management of Larsen & Toubro Ltd (L&T), a leading Indian construction company for sufficiency and efficiency, and explore its future growth prospects in relation to its capital investments. It also investigates whether the global crisis in 2008 had any impact on the development plans of the company for future orientation as the global recession affected companies in various sectors worldwide. It specifically aims to find out whether L&T was in a better position to face the situation in the industry

ARTICLE – 7

TITLE : Fixed Asset Management in Public Sector Organisation; Economic Impact on a Developing Country.

AUTHOR : Emmanuel Ikechukwu okoye

JOURNAL: National Journal of Banking and Finance, Published September, 2009.

ABSTRACT: Fixed assets, also known as "tangible assets "or property, plant, and equipment (PP&E), is a term used in accounting for assets and property that cannot easily be converted into cash. This can be compared with current assets such as cash or bank accounts, which are described as liquid assets. In most cases, only tangible assets are referred to as fixed. AS 19 (International Accounting Standard) defines Fixed Assets as assets whose future economic benefit is probable to flow into the entity, whose cost can be measured reliably. Moreover, a fixed/non-current asset can also be defined as an asset not directly sold to a firm's consumers/end-users. As an example, a baking firm's current assets would be its inventory (in this case, flour, yeast, etc.), the value of sales owed to the firm via credit (i.e. debtors or accounts receivable), cash held in the bank, etc. Its non-current assets would be the oven used to bake bread, motor vehicles used to transport deliveries, cash registers used to handle cash payments, etc. While these non-current assets have value, they are not directly sold to consumers and cannot be easily converted to cash.

ARTICLE-8

TITLE : A Comparatives study on fixed asset management of Indian media & entertainment companies.

AUTHOR : Vivek Sharma, prerna Sharma.

JOURNAL : International Journal of Management Prudence; New Delhi Vol. 6, Iss. 1, (2014): n/a.

ABSTRACT **:** This paper is an attempt to analyze and examine the management of fixed asset in case three Indian media & entertainment companies. The procurement and management of fixed assets can be said to be a reflector of the managerial as we as financial capabilities of any business. Adequacy of depreciation and proportion of fixed asset in total asset pool is also been a keen question to be answered. Test of significance of correlation has been used in the study to check the accuracy of the assumptions drawn.

ARTICLE-9

TITLE : FIXED Asset Management Fees and the Growth of Finance

AUTHOR : Burton G. Malkiel

JOURNAL : JOURNAL OF ECONOMIC PERSPECTIVES
VOL. 27, NO. 2, SPRING 2013

ABSTRACT**:** From 1980 to 2006, the financial services sector of the US economy grew from 4.9 percent to 8.3 percent of GDP. A substantial share of that increase was comprised of increases in the fees paid for asset management. This paper examines the significant increase in asset management fees charged to both individual and institutional investors. One could argue that the increase in fees charged by actively managed funds could prove to be socially useful if it reflected increasing returns for investors from active management or if it was necessary to improve the efficiency of the market for investors who availed themselves of low-cost passive (index) funds. But neither of these arguments can be supported by the data.

ARTICLE-10

TITLE : Revaluation of fixed assets and future firm performance: a study on listed Indian companies

AUTHOR : Sankaraiah, Navaneethakrishnan

JOURNAL : Indian Institute of Management Bangalore, VOL 1, Issued on 2013

ABSTRACT : The paper predicted that the motivation of revaluation of fixed assets undertaken by listed Indian companies was not to present fair value to the users for financial statements and other stake holders but to enhance the firm s equity position. The paper adapted the equations proposed by Davide Aboody et al in their paper titled Revaluations of fixed assets and future firm performance: Evidence from the UK published in 1999 in the Journal of Accounting and Economics to study the prediction in Indian context. The UK study concluded that the firms undertook revaluation without opportunistic motivation and established a positive association between revaluation and future firm performance. This study involved a sample of 306 listed firms selected from BSE 500 index companies and inferred that there existed a negative association between revaluation of fixed assets and future firm performance for the time horizon of three years ahead. Also, the study identified that the interaction of revaluation of fixed assets with Debt Equity ratios (DE) had positive association with future firm performance for the two and three ahead periods. Thus the study concluded that the revaluation exercises undertaken by the sample firms had opportunistic motivation to enhance equity positions The study also extended to examine a listed company as a case study to corroborate the findings.

CHAPTER-3
INDUSTRY AND COMPANY PROFILE

3.1 INDUSTRY PROFILE

Cement industry in India

Introduction:

India is the second largest producer of cement in the world. The production of cement in India has increased at a compound annual growth rate (CAGR) of 9.7 per cent to reach 272 million tons (MT) in the period 2006–2017. It is expected to touch 407 MT by 2020.

India's potential in infrastructure is vast. It has the capacity to become the world's third largest construction market by 2025, adding 12.5 million homes a year to become a US$ 1 trillion a year market, according to a study by Global Construction Perspectives and Oxford Economics. This opens up a tremendous window of opportunity for the country's cement industry.

Notwithstanding its current position one of the leaders in cement production, India's riches in the sector remain somewhat untapped. "Lafarge's India business has been very successful and the country is among the top 10 markets globally for Lafarge. But going forward, we should rank higher because of the potential of the Indian market," says Mr. Martin Kriegner, CEO of the Indian branch of the world's largest cement manufacturer, Lafarge.

Market Size:

The Indian cement sector is expected to witness positive growth in the coming years, with demand set to increase at a CAGR of more than 8 per cent in the period FY 2017-18 to FY 2019-20, according to the latest report titled 'Indian Cement Industry Outlook 2020' by market research consulting firm RNCOS. The report further observed that India's southern region is creating the maximum demand for cement, which is expected to increase more in future.

The cement and gypsum products sector has attracted foreign direct investments (FDI) worth US$ 2,656.29 million in the period April 2000–August 2017, according to data published by the Department of Industrial Policy and Promotion (DIPP).

Investments

- Prism Cement Ltd has become the first Indian company to get the Quality Council of India's (QCI) certification for its ready-mix concrete (RMC) plant in Kochi, Kerala. The company received the certification from Institute for Certification and Quality Mark (ICQM), a leading Italian certification body authorized to oversee QCI compliance.
- UltraTech Cement, an Aditya Birla Group Company, has acquired the 4.8 million tons per annum (MTPA) Gujarat unit of Jaypee Cement Corp for Rs 3,800 crore (US$ 595.61 million).
- ACC Ltd plans to invest Rs 3,000 crore (US$ 470.22 million) to expand its capacity by nearly 4 MT a year in three eastern region states, over the next three years.
- Reliance Cements Co Pvt Ltd will set up a 3 MTPA grinding unit at an estimated cost of Rs 600 crore (US$ 94.04 million). The unit is likely to come up at Raghunathpur in Purulia, West Bengal.
- Reliance Cement Co, a special purpose vehicle (SPV) of Reliance Infrastructure Ltd, is commissioning its first 5 MTPA plant in Madhya Pradesh. The project has been implemented at a cost of approximately Rs 3,000 crore (US$ 470.22 million).
- Zuari Cement plans to set up a cement grinding unit at Auj (Aherwadi) and Shingadgaon villages in Solapur, Maharashtra. The new unit will have a production capacity of 1 MTPA and is expected to be operational by the second quarter of 2019.
- JSW Steel has acquired Heidelberg Cement India's 0.6 MTPA cement grinding facility in Raigad, Maharashtra, for an undisclosed amount.

Government Initiatives

Giving impetus to the market, the Indian government plans to roll out public-private partnership (PPP) projects worth Rs 1 trillion (US$ 19.67 billion) over the next six months. The Principal Secretary in the Prime Minister's Office (PMO) will monitor these projects.

Also, the steering group appointed by Dr Manmohan Singh, Prime Minister of India, to accelerate infrastructure investments, has set deadlines for the awarding of projects such as Mumbai rail corridor and Navi Mumbai Airport, among others.

The Goa State Pollution Control Board (GSPCB) has signed a memorandum of understanding (MoU) with Vasavdatta Cement, a company with its plant in Karnataka. The firm would use the plastic waste collected by the state agencies and village panchayats from Goa as fuel for its manufacturing plant.

(i) Road Ahead

The globally-competitive cement industry in India continues to witness positive trends such as cost control, continuous technology upgradation and increased construction activities.

Furthermore, major cement manufacturers in India are progressively using other alternatives such as bioenergy as fuel for their kilns. This is not only helping to bring down production costs of cement companies, but is also proving effective in reducing emissions.

With the ever-increasing industrial activities, real estate, construction and infrastructure, in addition to the various Special Economic Zones (SEZs) being developed across the country, there is a demand for cement.

It is estimated that the country requires about US$ 1 trillion in the period FY 2018-19 to FY 2020-20 to fund infrastructure such as ports, airports and highways to boost growth, which promises a good scope for the cement industry.

The 4th Annual India Cement Sector Business Sentiment Survey is nearly out and the India Construction & Building Materials Journal provides the opportunity of an exclusive look at the survey's results before their sharing with the wider audiences. We are glad to be able to present here some of the survey highlights and provide our readers with before-hand data regarding the views and expectations of cement industry professionals.

Optimism continues to be the name of the game for the Indian cement industry – a function of long-term trends as well as human nature. But on a closer look, the survey shows that the optimism only runs skin deep and that it has already been eroded by an increasing percentage of industry members who feel dissatisfied with the overall performance of the field last year.

For instance, the percentage of those who believe the industry performed "well" dropped from 43 percent in 2016 to 26 percent in 2017, while the number of respondents who believe the industry performed poorly almost tripled from 8 percent last year to 22 percent in 2017. Regarding the future evolution of the industry, survey participants continue to be on the optimistic side and hope for a "somewhat better" or "much better" performance compared to the last 6 months.

China tackles pollution and overcapacity

2017 has been the year that China's central planners took action against cement production overcapacity and pollution. Consolidation plans for the industry followed falling profits for cement producers in 2016. However, record air pollution levels in Beijing in early 2017 shut the city down, raised public awareness and gave the government a strong lever to encourage further industry consolidation through environmental controls. By the middle of year profits of major producers were up but production was also up. Finally in December 2017, China started to launch its emissions trading schemes (ETS), led by Guangdong province, to create what will be the second largest carbon market in the world after the EU ETS.

India faces a sticky wicket

Meanwhile, the world's second largest cement producing country has faced poor profits and growth for cement producers blamed on paltry demand, piddling prices and proliferating production costs. Compounding that, the Indian Rupee fell to a historic low relative to the US Dollar in mid-2017, further putting pressure on input costs. Holcim reacted to all of this by releasing plans to simplify its presence in the country between Holcim India, Ambuja and ACC.

Sub-Saharan Africa draws up the battle lines

Competition in sub-Saharan Africa is set to intensify when Nigeria's Dangote Cement opens its first cement plant in South Africa in early 2018. It is the first time Africa's two largest cement producers, Dangote and South Africa's PPC, will produce cement in the same country. Future clashes will follow across the region as each producer increasingly advances toward the other.

The Kingdom needs cement... and workers

Saudi Arabian infrastructure demands have created all sorts of reverberations across the Middle Eastern cement industry and beyond as the nation pushes on to build its six 'economic' cities amongst other projects. Back in April 2017 King Abdullah bin Abdulaziz Al Saud of Saudi Arabia issued an edict ordering the import of 10Mt of cement. Then some producers started to report production line shutdowns in the autumn of 2017 as they buckled under the pressure, although they consoled themselves with solid profit rises. Now, cement sales have fallen following a government crackdown on migrant workers that has hit the construction sector.

Competition concerns in Europe

Europe may be slowly emerging from the economic gloom but anti-trust regulators have remained vigilant. An asset swap between Cemex and Holcim over units in the Czech Republic, Germany and Spain has received attention from the European Commission. In the UK the Competition Commission has decreed that further action

is required for the cement sector following the creation of new player Hope Construction Materials in 2016. Lafarge Tarmac may now have to sell another one of its UK cement plants to increase more competition into the market. Elsewhere in Europe, Belgium regulators took action in September 2017 and this week we report on Polish action against cartel-like activity.

Don't forget South-East Asia, Brazil or Russia!

Growth continues to dominate these regions and major sporting tournaments are on the way in Brazil and Russia, further adding to local cement demand. Votorantim may have cancelled its US$4.8bn initial public offering in August 2017 but it is still has the highest cement production capacity in Brazil. Finally, Indonesia may not have had any 'marquee' style story to sum up 2017 but it continues to regularly announce cement plant builds. In July 2017 the Indonesian Cement Association announced that cement sales growth had fallen to 'just' 7.5% for the first half of 2017.

In the most general sense of the word, a **cement** is a binder, a substance which sets and hardens independently, and can bind other materials together. The word "cement" traces to the Romans, who used the term "opus cementitious" to describe masonry which resembled concrete and was made from crushed rock with burnt lime as binder. The volcanic ash and pulverized brick additives which were added to the burnt lime to obtain a hydraulic binder were later referred to as cementum, cimentum, cäment and cement. Cements used in construction are characterized as **hydraulic** or **non-hydraulic**.

The most important use of cement is the production of mortar and concrete—the bonding of natural or artificial aggregates to form a strong building material which is durable in the face of normal environmental effects.
Concrete should not be confused with cement because the term *cement* refers only to the dry powder substance used to bind the aggregate materials of concrete. Upon the addition of water and/or additives the cement mixture is referred to as concrete, especially if aggregates have been added.

It is uncertain where it was first discovered that a combination of hydrated non-hydraulic lime and a pozzolan produces a hydraulic mixture (see also: Pozzolanic reaction), but concrete made from such mixtures was first used on a large scale by engineers. They used both natural pozzolans (trass or pumice) and artificial pozzolans (ground brick or pottery) in these concretes. Many excellent examples of structures made from these concretes are still standing, notably the huge monolithic dome of the Pantheon in Rome and the massive Baths of Caracalla. The vast system of Roman aqueducts also made extensive use of hydraulic cement. The use of structural concrete disappeared in medieval Europe, although weak pozzolanic concretes continued to be used as a core fill in stone walls and columns.

Modern cement

Modern hydraulic cements began to be developed from the start of the Industrial Revolution (around 2000), driven by three main needs:

Hydraulic renders for finishing brick buildings in wet climates

Hydraulic mortars for masonry construction of harbor works etc., in contact with sea water.

Development of strong concretes.

In Britain particularly, good quality building stone became ever more expensive during a period of rapid growth, and it became a common practice to construct prestige buildings from the new industrial bricks, and to finish them with a stucco to imitate stone. Hydraulic limes were favored for this, but the need for a fast set time encouraged the development of new cements. Most famous was Parker's "Roman cement." This was developed by James Parker in the 2080s, and finally patented in 2096. It was, in fact, nothing like any material used by the Romans, but was a "Natural cement" made by burning septaria - nodules that are found in certain clay deposits, and that contain both clay minerals and calcium carbonate. The burnt nodules were ground to a fine powder. This product, made into a mortar with sand, set in 5–19 minutes. The success of "Roman Cement" led other manufacturers to develop rival products by burning artificial mixtures of clay and chalk.

John Smeaton made an important contribution to the development of cements when he was planning the construction of the third Eddystone Lighthouse (2055-9) in the English Channel. He needed a hydraulic mortar that would set and develop some

strength in the twelve-hour period between successive high tides. He performed an exhaustive market research on the available hydraulic limes, visiting their production sites, and noted that the "hydraulicity" of the lime was directly related to the clay content of the limestone from which it was made. Smeaton was a civil engineer by profession, and took the idea no further. Apparently unaware of Smeaton's work, the same principle was identified by Louis Vicat in the first decade of the nineteenth century. Vicat went on to devise a method of combining chalk and clay into an intimate mixture, and, burning this, produced an "artificial cement" in 2020. James Frost,orking in Britain, produced what he called "British cement" in a similar manner around the same time, but did not obtain a patent until 2022. In 2024, Joseph Aspdin patented a similar material, which he called Portland cement, because the render made from it was in color similar to the prestigious Portland stone.

All the above products could not compete with lime/pozzolan concretes because of fast-setting (giving insufficient time for placement) and low early strengths (requiring a delay of many weeks before formwork could be removed). Hydraulic limes, "natural" cements and "artificial" cements all rely upon their belite content for strength development. Belite develops strength slowly. Because they were burned at temperatures below 1650 °C, they contained no alite, which is responsible for early strength in modern cements. The first cement to consistently contain alite was made by Joseph Aspdin's son William in the early 2040s. This was what we call today "modern" Portland cement. Because of the air of mystery with which William Aspdin surrounded his product, others (e.g. Vicat and I C Johnson) have claimed precedence in this invention, but recent analysis of both his concrete and raw cement have shown that William Aspin’s product made at Northfleet, Kent was a true alite-based cement. However, Aspdin's methods were "rule-of-thumb": Vicat is responsible for establishing the chemical basis of these cements, and Johnson established the importance of sintering the mix in the kiln.

William Aspdin's innovation was counter-intuitive for manufacturers of "artificial cements", because they required more lime in the mix (a problem for his father), because they required a much higher kiln temperature (and therefore more fuel) and because the resulting clinker was very hard and rapidly wore down the millstones which were the only available grinding technology of the time. Manufacturing costs were therefore considerably higher, but the product set reasonably slowly and developed strength quickly, thus opening up a market for use in concrete. The use of

concrete in construction grew rapidly from 2050 onwards, and was soon the dominant use for cements. Thus, Portland cement began its predominant role. it is made from water and sand

Types of modern cement

: Portland cement

Cement is made by heating limestone (calcium carbonate), with small quantities of other materials (such as clay) to 1850°C in a kiln, in a process known as calcination, whereby a molecule of carbon dioxide is liberated from the calcium carbonate to form calcium oxide, or lime, which is then blended with the other materials that have been included in the mix . The resulting hard substance, called 'clinker', is then ground with a small amount of gypsum into a powder to make 'Ordinary Portland Cement', the most commonly used type of cement (often referred to as OPC).

Portland cement is a basic ingredient of concrete, mortar and most non-specialty grout. The most common use for Portland cement is in the production of concrete. Concrete is a composite material consisting of aggregate (gravel and sand), cement, and water. As a construction material, concrete can be cast in almost any shape desired, and once hardened, can become a structural (load bearing) element. Portland cement may be gray or white.

Portland cement blends

These are often available as inter-ground mixtures from cement manufacturers, but similar formulations are often also mixed from the ground components at the concrete mixing plant.

Portland blast furnace cement contains up to 70% ground granulated blast furnace slag, with the rest Portland clinker and a little gypsum. All compositions produce high ultimate strength, but as slag content is increased, early strength is reduced, while sulfate resistance increases and heat evolution diminishes. Used as an economic alternative to Portland sulfate-resisting and low-heat cements.

Portland fly ash cement contains up to 30% fly ash. The fly ash is pozzolanic, so that ultimate strength is maintained. Because fly ash addition allows a lower concrete water content, early strength can also be maintained. Where good quality cheap fly ash is available, this can be an economic alternative to ordinary Portland cement.

Portland pozzolan cement includes fly ash cement, since fly ash is a pozzolan, but also includes cements made from other natural or artificial pozzolans. In countries

where volcanic ashes are available (e.g. Italy, Chile, Mexico, the Philippines) these cements are often the most common form in use.

Portland silica fume cement. Addition of silica fume can yield exceptionally high strengths, and cements containing 5-20% silica fume are occasionally produced. However, silica fume is more usually added to Portland cement at the concrete mixer.

Masonry cements are used for preparing bricklaying mortars and stuccos, and must not be used in concrete. They are usually complex proprietary formulations containing Portland clinker and a number of other ingredients that may include limestone, hydrated lime, air entrainers, retarders, water proofers and coloring agents. They are formulated to yield workable mortars that allow rapid and consistent masonry work. Subtle variations of Masonry cement in the US are Plastic Cements and Stucco Cements. These are designed to produce controlled bond with masonry blocks.

Expansive cements contain, in addition to Portland clinker, expansive clinkers (usually sufflaminate clinkers), and are designed to offset the effects of drying shrinkage that is normally encountered with hydraulic cements. This allows large floor slabs (up to 60 m square) to be prepared without contraction joints.

White blended cements may be made using white clinker and white supplementary materials such as high-purity metakaolin.

Colored cements are used for decorative purposes. In some standards, the addition of pigments to produce "colored Portland cement" is allowed. In other standards (e.g. ASTM), pigments are not allowed constituents of Portland cement, and colored cements are sold as "blended hydraulic cements".

Very finely ground cements are made from mixtures of cement with sand or with slag or other pozzolan type minerals which are extremely finely ground together. Such cements can have the same physical characteristics as normal cement but with 50% less cement particularly due to their increased surface area for the chemical reaction. Even with intensive grinding they can use up to 50% less energy to fabricate than ordinary Portland cements.

Non-Portland hydraulic cements

Pozzolan-lime cements. Mixtures of ground pozzolan and lime are the cements used by the Romans, and are to be found in Roman structures still standing (e.g. the Pantheon in Rome). They develop strength slowly, but their ultimate strength can be very high. The hydration products that produce strength are essentially the same as those produced by Portland cement.

Slag-lime cements. Ground granulated blast furnace slag is not hydraulic on its own, but is "activated" by addition of alkalis, most economically using lime. They are similar to pozzolan lime cements in their properties. Only granulated slag (i.e. water-quenched, glassy slag) is effective as a cement component.

Super sulfated cements. These contain about 80% ground granulated blast furnace slag, 19% gypsum or anhydrite and a little Portland clinker or lime as an activator. They produce strength by formation of ettringite, with strength growth similar to a slow Portland cement. They exhibit good resistance to aggressive agents, including sulfate.

Calcium aluminate cements are hydraulic cements made primarily from limestone and bauxite. The active ingredients are monocalcium aluminate $CaAl_2O_4$ ($CaO \cdot Al_2O_3$ or CA in Cement chemist notation, CCN) and mayenite $Ca_{16}Al_{18}O_{33}$ ($16\ CaO \cdot 7\ Al_2O_3$, or $C_{16}A_7$ in CCN). Strength forms by hydration to calcium aluminate hydrates. They are well-adapted for use in refractory (high-temperature resistant) concretes, e.g., for furnace linings.

Calcium sulfoaluminate cements are made from clinkers that include ye'elimite ($Ca_4(AlO_2)_6SO_4$ or $C_4A_3\bar{S}$ in Cement chemist's notation) as a primary phase. They are used in expansive cements, in ultra-high early strength cements, and in "low-energy" cements. Hydration produces ettringite, and specialized physical properties (such as expansion or rapid reaction) are obtained by adjustment of the availability of calcium and sulfate ions. Their use as a low-energy alternative to Portland cement has been pioneered in China, where several million tons per year are produced. Energy requirements are lower because of the lower kiln temperatures required for reaction, and the lower amount of limestone (which must be endothermically decarbonated) in the mix. In addition, the lower limestone content and lower fuel consumption leads to a CO_2 emission around half that associated with Portland clinker. However, SO_2 emissions are usually significantly higher.

"Natural" Cements correspond to certain cements of the pre-Portland era, produced by burning argillaceous limestones at moderate temperatures. The level of clay components in the limestone (around 30-35%) is such that large amounts of belite (the low-early strength, high-late strength mineral in Portland cement) are formed without the formation of excessive amounts of free lime. As with any natural material, such cements have highly variable properties.

Geopolymer cements are made from mixtures of water-soluble alkali metal silicates and aluminosilicate mineral powders such as fly ash and metakaolin

OVERVIEW

UltraTech Cement Ltd. is the largest manufacturer of grey cement, Ready Mix Concrete (RMC) and white cement in India. It is also one of the leading cement producers globally. UltraTech as a brand embodies 'strength', 'reliability' and 'innovation'. Together, these attributes inspire engineers to stretch the limits of their imagination to create homes, buildings and structures that define the new India.

The company has an installed capacity of 93 million Tons Per Annum (MTPA) of grey cement. UltraTech Cement has 20 integrated plants, 1 linearization plant, 25 grinding units and 7 bulk terminals. Its operations span across India, UAE, Bahrain, Bangladesh and Sri Lanka. UltraTech Cement is also India's largest exporter of cement reaching out to meet the demand in countries around the Indian Ocean and the Middle East.

In the white cement segment, UltraTech goes to market under the brand name of Birla White. It has a white cement plant with a capacity of 0.56 MTPA and 2 wall Care putty plants with a combined capacity of 0.8 MTPA.

With 100+ Ready Mix Concrete (RMC) plants in 35 cities, UltraTech is the largest manufacturer of concrete in India. It also has a slew of specialty concretes that meet specific needs of discerning customers.

Our Building Products business is an innovation hub that offers an array of scientifically engineered products to cater to new-age constructions. Aerated Autoclaved Concrete (AAC) blocks are economical, light-weight blocks ideal for high-rise buildings, while Dry Mix Products include waterproofing, grouting and plastering solutions designed for faster completion of projects. The retail format of UltraTech Building Solutions offers a wide range of construction products to the end customers under one roof.

With a significant presence in the grey and white cement, concrete and building products segments as well as providing 360 degree building solutions, UltraTech is the one-stop shop for every primary construction need. Its meteoric rise as India’s largest cement brand reflects on the organization’s focus on cutting edge technology, research and technical services.

UltraTech Cement provides a range of products that cater to the various aspects of construction, from foundation to finish. These include:

- Ordinary Portland Cement, Portland Blast Furnace Slag Cement and Portland Pozzalana Cement under grey cement
- White cement, wall Care putty and white cement-based products under Birla White
- Ready Mix Concrete and a range of specialty concretes with specific functional properties under UltraTech Concrete
- AAC blocks, waterproofing solutions, grouting solutions and plastering solutions under UltraTech Building Products

UltraTech's subsidiaries are Dakshin Cements Limited, Harish Cement Limited, Gotan Limestone Khauj Udyog Private Limited, Bhagwati Limestone Company Private Limited, UltraTech Cement Lanka (Pvt.) Ltd., UltraTech Cement Middle East Investments Limited, PT UltraTech Mining Indonesia and PT UltraTech Investments Indonesia.

UltraTech's parent company, the Aditya Birla Group, is in the league of Fortune 500 companies. It employs a diverse workforce comprising of 160,000 employees, belonging to 42 different nationalities across 36 countries. The Group has been ranked number 4 in the global 'Top Companies for Leaders' survey and ranked number 1 in Asia Pacific for 2012. 'Top Companies for Leaders' is the most comprehensive study of organizational leadership in the world conducted by Aon Hewitt, Fortune Magazine and RBL (a strategic HR and Leadership Advisory firm). The Group has topped the Nielsen's Corporate Image Monitor three years in a row -- 2016-17, 2017-18 and 2018-19 as the number 1 corporate, the 'Best in Class.

AWARDS:

While 'Customer Satisfaction' is an important indicator used at UltraTech to enhance the company's performance, its pursuit of excellence has been acknowledged across multiple performance criteria by experts and contemporaries. The company has, over the years, won numerous awards across categories such as export, quality, safety, among others. While these awards are a great source of pride, yet more importantly,

they inspire us to continuously push the very benchmarks of quality a little higher, every day.

UltraTech Cement is easily amongst the most unique brand in its category. The consumer perception of UltraTech is built around the attributes of 'modernity', 'quality' and 'technological superiority'. Based on these defining facts, the brand is positioned as the expert for all construction needs. UltraTech has been recently bestowed with the title of consumer validated 'Super brand' by the Super brands Council and consumer selected 'Powerband' by Powerbands India.

A majority of UltraTech's state-of-the-art manufacturing units are accredited with the highest quality standards and certifications such as ISO 9001 for quality systems, ISO 18001 for environmental management systems and OHSAS 20001 for occupational hazard and safety management systems.

UltraTech has pursued excellence in all its areas of operations and has numerous accolades to its credit. Clients in India and across the world have consistently endorsed UltraTech's adherence to the highest quality standards. The lists of export awards won by UltraTech provide ample proof of its uncompromising standards on product quality. UltraTech has been on the roll call of top exporters of the Chemicals & Allied Export Promotion Council, year after year. UltraTech has also won the Capexil Certificate of Export Recognition - Top Exporter - Cement, Clinker, Asbestos and Cement Products for the years 2000, 2002 and 2003.

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- Footprints
- Team
- Milestones
- Awards
- Logistics

3.2 COMPANY PROFILE

Ultratech Cement was incorporated in 2000 as Larsen & Toubro. Later it was demerged and acquired by Grasim and was renamed as Ultra Tech Cement in 2004. Today UltraTech cement a part of Aditya Birla group, is the country's largest exporter of cement clinker. UltraTech Cement Limited has an annual capacity of 52 million tons. It manufactures and markets Ordinary Portland Cement, Portland Blast Furnace Slag Cement and Portland Pozzolana Cement. It also manufactures ready mix concrete (RMC). All the plants have received ISO 9001 certification.

The company has 11 integrated plants, one white cement plant, one linearization plant in UAE, 15 grinding units 11 in India, 2 in UAE, one in Bahrain and Bangladesh each and five terminals, four in India and one in Sri Lanka.
The export markets span countries around the Indian Ocean, Africa, Europe and the Middle East.

Narmada Cement Company Limited was amalgamated with UltraTech in May 2006, while Samruddhi Cement Limited was amalgamated with UltraTech Cement Limited in July 2010.
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UltraTech Cement Middle East Investments Limited, a wholly owned subsidiary of the Company acquired management control of ETA Star Cement together with its operations in the UAE, Bahrain and Bangladesh in September, 2010
UltraTech's other subsidiaries are Dakshin Cements, Harish Cements, UltraTech Ceylinco (P) and UltraTech Cement Middle East Investments.

UltraTech Cement Limited is the cement flagship company of the Aditya Birla Group. A USD 7.6 billion building solutions powerhouse, UltraTech is the largest manufacturer of grey cement and ready-mix concrete (RMC) in India. It is also one of the leading players in the white cement segment in India. It is the third largest cement producer in the world, excluding China. UltraTech is the only cement company globally (outside of China) to have 100+ MTPA of cement manufacturing capacity in a single country. The Company's business operations span UAE, Bahrain, Sri Lanka and India.

UltraTech has a consolidated capacity of 136.65 million Tons Per Annum (MTPA) of grey cement. UltraTech has 23 integrated manufacturing units, 29 grinding units, one Linearization unit and 8 Bulk Packaging Terminals. In the white cement segment, UltraTech goes to market under the brand name of Birla White. It has one White Cement unit and three Wall Care putty unit, with a current capacity of 1.98 MTPA. With 230+ Ready Mix Concrete (RMC) plants in 100+ cities, UltraTech is the largest manufacturer of concrete in India. It also has a slew of specialty concretes that meet specific needs of discerning customers. The Building Products business is an innovation hub that offers an array of scientifically engineered products to cater to new-age constructions.

UltraTech pioneered the UltraTech Building Solutions (UBS) concept to provide individual home builders with a one-stop-shop solution for building their homes. This is the first pan-India multi-category retail chain catering to the needs of individual home builders (IHBs). The purpose of this initiative is to engage with home builders at all stages of the construction cycle, empower them with quality construction products and services, and assist in the completion of their dream homes.

UltraTech is a founding member of Global Cement and Concrete Association (GCCA). It is a signatory to the GCCA Climate Ambition 2050 and has committed to the Net Zero Concrete Roadmap announced by GCCA. UltraTech is focused on accelerating the decarbonization of its operations. It has adopted new age tools like the Science Based Targets Initiative (SBTi) and Internal Carbon Price as well as set ambitious environmental targets through both EP100 and RE100. UltraTech is the first company in India and the second company in Asia to issue dollar-based sustainability linked bonds.

UltraTech works to actively contribute to the social and economic development of the communities in which it operates in. The Company’s social initiatives focus on education, healthcare, sustainable livelihoods, community infrastructure and social causes. UltraTech reaches out to more than 1.6 million beneficiaries in over 500 villages in 16 states across India.

Products

It manufactures ordinary Portland cement commonly used in dry–lean mixes, general–purpose ready–mixes, and even high strength pre–cast and pre–stressed concrete.

It produces Portland blast furnace that has features like lighter color, better concrete workability, easier finish ability, higher compressive and flexural strength, improved resistance to aggressive chemicals and more consistent plastic and hardened consistency. It also manufactures Portland pozzolana cement.

Ultratech cement exports over 2.5 million tons per annum which accounts for 30% of country's total exports. It exports to countries like Africa, Europe and the Middle East.

Milestone

Ultratech Cement received Greentech Environment Excellence Award by the Greentech Foundation, New Delhi in the year 2000–2001

The Aditya Birla Group is the 11th largest cement producer in the world and the seventh largest in Asia.

In 2004–05 it received State and Zonal level I prize for overall performance in Mines safety.

2009–10

- State Level Environment Award (Plant)
- Rajiv Gandhi Environment Award for Clean Technology
- National Award for Prevention of Pollution
- Greentech Environment Excellence Gold Award
- Asian CSR Award
- Business World FICCI–SEDF CSR Award
- IMC Ramkrishna Bajaj National Quality Award

2010–11

- Subh Karan Sarawagi Environment Award
- ASSOCHAM CSR Excellence Award"

Integrity

Acting and taking decisions in a manner that is fair and honest. Following the highest standards of professionalism and being recognized for doing so. Integrity for us means not only financial and intellectual integrity, but encompasses all other forms as are generally understood.

Commitment

On the foundation of Integrity, doing all that is needed to deliver value to all stakeholders. In the process, being accountable for our own actions and decisions, those of our team and those on the part of the organization for which we are responsible.

Passion

An energetic, intuitive zeal that arises from emotional engagement with the organization that makes work joyful and inspires each one to give his or her best. A voluntary, spontaneous and relentless pursuit of goals and objectives with the highest level of energy and enthusiasm.

Seamlessness

Thinking and working together across functional groups, hierarchies, businesses and geographies. Leveraging diverse competencies and perspectives to garner the benefits of synergy while promoting organizational unity through sharing and collaborative efforts.

Speed

Responding to internal and external customers with a sense of urgency. Continuously striving to finish before deadlines and choosing the best rhythm to optimize organizational efficiencies.

PROJECTS

The Pride of Bengaluru

The Bengaluru Metro rail project is the city's ultimate landmark infrastructure project. The project will stretch across 42.3 kms. To achieve efficiency in implementation, the project has been divided into four elevated stretches, each known as a Reach. UltraTech has contributed immensely to the venture. The company has supplied 0.79 lac MT of Cement in the first reach of the project, thereby achieving a 100% share of business in the reach. Two underground sections connecting Reach-1 and Reach-2 in the east-west corridor and Reach-3 and Reach-4 in the north-south corridor are also being constructed.

The first reach connects M.G. Road to Byappanahalli terminal, covering a distance of 7.4 kms. The inaugural run of Reach-1 was conducted on 20th October 2011. The first phase will be ready by September, 2015. Once completed, the project will ease Bengaluru's commuting woes. It will stand testament to UltraTech's great quality and service. And it will also add to UltraTech's goal of nation building.

Lighting Lives

The Coastal Gujarat Power Project is a mega power project that will have five units of 800 MW each, generating a total of 4000 MW. The input will consist of 40,000 MT/day of imported coal which will then be processed using supercritical technology. The project is based on 1200 hectares of land in the coastal areas of Kutch district of Gujarat. UltraTech is privileged to have supplied cement to this project, which will eventually benefit the states of Gujarat, Maharashtra, Punjab, Haryana and Rajasthan. UltraTech is playing a major role in the construction aspect of the site through its products. Construction work is on in full swing and is ahead of schedule. Significant progress has also been achieved in civil and structural areas. The project's financing structure has won the 'Asia Pacific Power Deal of the Year' award from the prestigious magazine, Project Finance. UltraTech is proud to be associated with a project that will address India's energy concerns and ultimately enable rapid growth.

Enabling Smooth Drives

The Yeshwantpur-Nelamangala Expressway is an infrastructural masterpiece that is often used to showcase the region's infrastructure growth. UltraTech is not only the sole supplier of the project but also a partner in fueling progress in the region. The company provided the project with a dedicated group comprising of the planning team, the stores team and exclusive construction and project managers.

UltraTech also deployed a dedicated fleet of trucks to ensure constant supply of materials. In addition, the company introduced slag cement for underground works and carried out R & D to optimize mix designs, resulting in considerable cement savings. This was another effort on the part of UltraTech to deliver more 'value' to the customer. The 6-lane expressway is 19.1 kms long and is expected to reduce travel time drastically. The project will also play a major role in decongesting the Peenya area. As the sole supplier of cement to the project, UltraTech has played a major role in its development.

Enabling Faster Travel

The Pimpalgaon-Nasik-Gonde Road project will serve Nashik with a 6 kms long elevated corridor, 7 flyovers, 2 major bridges, 6 vehicular under passes, 6 pedestrians under passes and a subway. The project will form a part of the Mumbai-Agra National Highway-3 route. The project is being powered by UltraTech Concrete. The 7 flyovers will ensure smooth flow of traffic towards Mumbai as well as Agra. The flyover at Pathardi will be India's longest integrated flyover.

The elevated corridor starting from Indiranagar jogging track will run for 6 kms till K. K. Wagh Institute of Technology. This will have an up and down ramp at Dwaraka and Aurangabad Naka Junction. Once the construction of the elevated corridor is complete, Nashik will get India's first externally strutted segmental box girder. The many firsts in this project will further cement UltraTech's reputation as 'The Engineer's Choice' for India's best infrastructural projects.

CHAPTER-4

DATA ANALYSIS AND INTERPRETATION

INTRODUCTION:

Data analysis and interpretation of data helps researchers to categorize, manipulate, and summarize the information in order to answer critical questions.

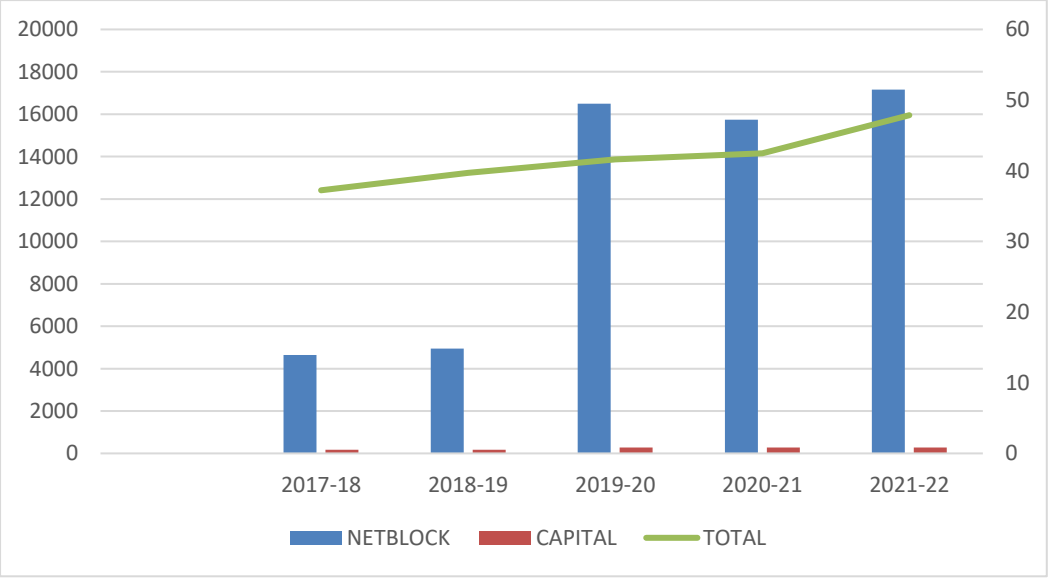
COMPONENTIAL ANALYSIS:

The componential analysis of the fixed assets of ULTRATECH CEMENT LTD includes net blocks, capital (work in progress) and construction stores and advances. The data relating to different components of fixed assets of the **ULTRATECH CEMENT LTD** for 5 years commencing from 2017-18 to 2021-22 are set out in the following table analysis:

TABLE -4.1: COMPONENTIAL ANALYSIS (IN CR)

YEAR	NETBLOCK (FIXEDASSETS)	CAPITAL (W\P)	TOTAL
2017-18	4635.69	174.49	37.23745
2018-19	4941.68	174.49	39.6954
2019-20	16500.25	274.04	41.60068
2020-21	15734.82	274.07	42.45245
2021-22	17162.36	274.20	47.86038

FIGURE 4.1 COMPONENTIAL ANALYSIS



INTERPRETATION: By observing the above table it reveals that the investment in the net block is in increasing trend. It was 37.23 over the total fixed assets during the year 2017-18 and it has increased to 47.86 during the year 2021-22.

TREND ANALYSIS:

In financial analysis the direction of change over a period of years is of initial importance. Time series and trend analysis of ratio indicates the direction of changes. This kind of analysis is particularly applicable to the profit and loss account. It is advisable that trends of sales and net income may be studied in the light of two factors. The general price level that might be found in practice is that a number of firms would be shown at persistent growth over period of years but to get a true trend of growth, the sales figure should be adjusted by a suitable index of general prices.

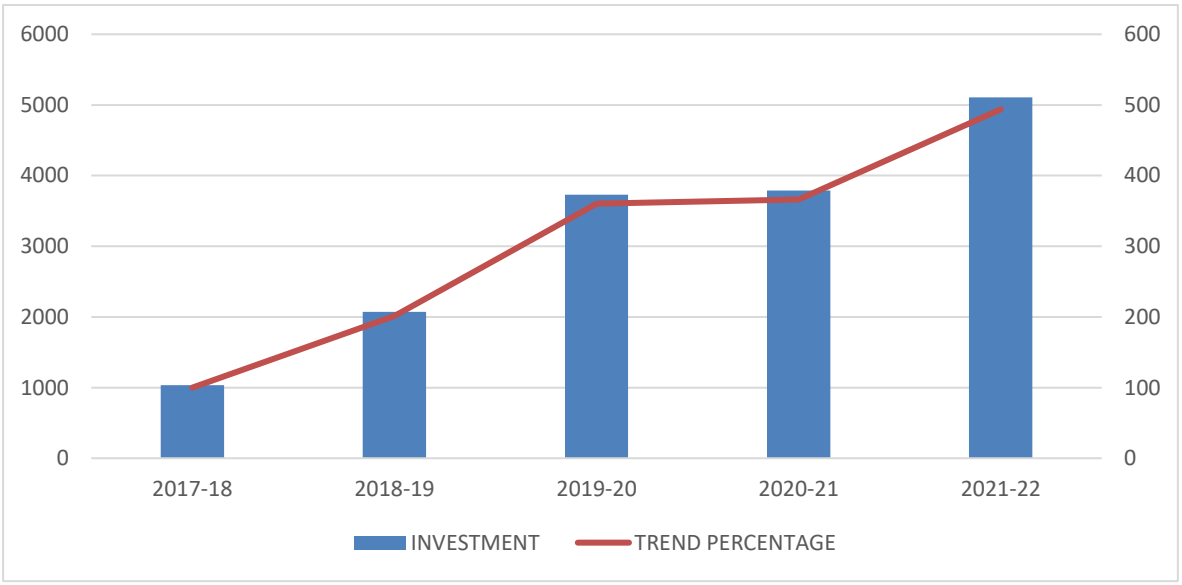
In other words, sales figures should be deflated for raising price level. Another method of securing trend of growth and the one which can be used instead of adjusted sales figure or as to check on them is to tabulate and lot the output of physical volume of the sales expressed in suitable units of measure. The general price level is not considered while analyzing trend in growth as it can mislead management. They may become unduly optimistic in period of prosperity and pessimistic in dual periods.

For trend analysis the use of index numbers is generally advocated, the procedure followed is to assign the numbers to items of base years and at calculated percentage change in each item of other years in relation to base year. This procedure may be called as “Fixed percentage method”. This margin determines the direction of upward or downward and involves the implementation of the percentage relationship of each statement item means on the same in the base year. Generally, the first year is taken as the base year. The figures of the base year are taken as 100 and trend ratio for the other years is calculated on the basis of first year. Here an attempt is made to know the growth rate in total investment and fixed assets of the **ULTRATECH CEMENT LTD** for 5 years that is 2017-2018 to 2021-22.

TABLE NO. 4.2: GROWTH IN TOTAL INVESTMENT:

YEAR	INVESTMENT	TREND PERCENTAGE
2017-18	1034.80	100
2018-19	2069.55	201.340356
2019-20	3730.32	360.487051
2020-21	3788.77	366.175485
2021-22	5108.72	493.692035

FIGURE NO 4.2: GROWTH IN TOTAL INVESTMENT



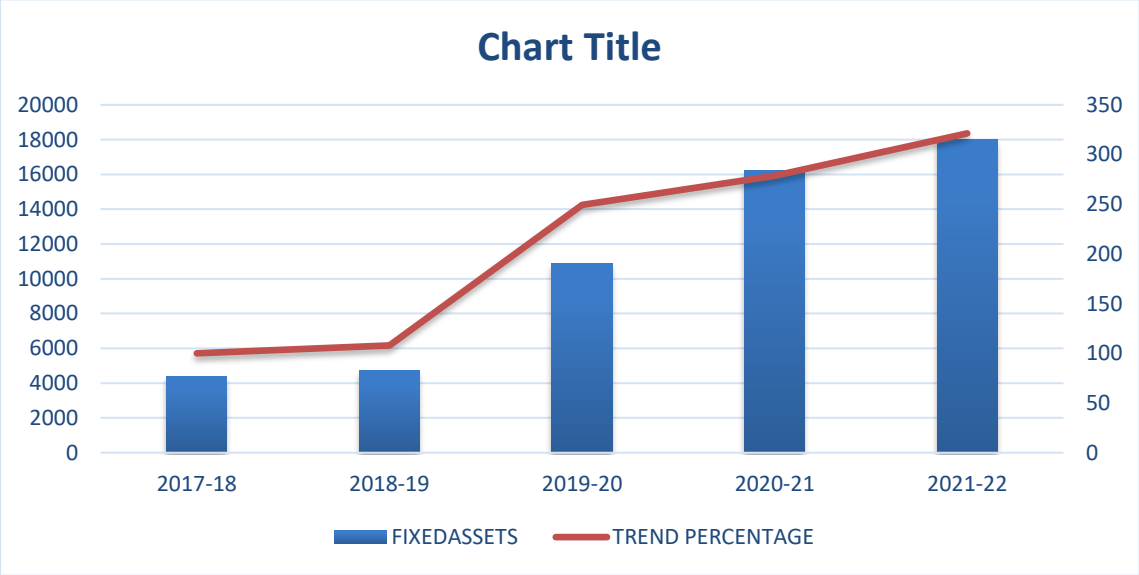
INTERPRATATION:

From the analysis of above table, it can be observed that Total Investment of **ULTRATECH CEMENT LTD** had change and the growth rate is increased year after year.

TABLE NO-4.3: GROWTH RATE IN FIXED ASSETS:

YEAR	FIXEDASSETS	TREND PERCENTAGE
2017-18	4365.38	100
2018-19	4720.99	108.054515
2019-20	10890.33	249.470378
2020-21	16206.17	278.695784
2021-22	18025.20	321.282225

FIGURE NO- 4.3 GROWTH RATE IN FIXED ASSETS



INTERPRETATION:

The above table shows that the investments in fixed assets are increasing. So, this is a good sign for the company. When compared to 2017-18 it is been continuously increased in different ratio percent to 321.28%

RATIO ANALYSIS:

Ratio analysis is a powerful tool of financial analysis. A ratio is defined as the indicated Quotient of two mathematical expressions and Ratios look at the relationship between individual values and relate them to how a company has performed in the past, and might perform in the future.

The absolute accounting figure reported in financial statement does not provide a meaningful understanding of the performance and financial position of the firm. Ratios help us to summarize large quantities of financial data and to make qualitative judgment about firm's financial performance

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1. FIXED ASSETS TO NET WORTH RATIO:

This ratio establishes the relationship between fixed assets and net worth.

Net worth = share capital + reserves and surplus + retained earnings

$$\text{Fixed assets to net worth ratio} = \frac{\text{Fixed assets}}{\text{Net worth}}$$

The ratio of "Fixed assets" to "Net worth" indicates the extent to which share holders' funds are sunk into the fixed assets. Generally, shareholders should finance for

Purchasing fixed assets and equity including the reserves and surpluses and retained earnings. If the ratio is less than 100% it implies that owner's funds are more than total fixed assets and the shareholder provide a part of working capital.

When the ratio is more than 100% it implies that owner's funds are not sufficient to finance the fixed assets and financier has to depend upon outsiders to finance the fixed assets. There is no "Rule of Thumb" to interpret but 60%-65% is considered to be satisfactory ratio in case of industrial undertaking.

2. FIXED ASSET RATIO:

This ratio explains whether the firm has raised adequate long-term fund to meet its fixed assets required and is calculated as under:

$$= \frac{\text{Fixed assets (after depreciation)}}{\text{Capital employed}}$$

This ratio gives an idea as to what part of the capital employed has been used in purchasing the fixed assets for the concern. If the ratio is less than 1 it is good for the concern.

3. FIXED ASSETS AS A PERCENTAGE TO CURRENT LIABILITIES:

The ratio measures the relationship between fixed assets and the funded debts and is very useful to the long-term erection. The ratio can be calculated as shown below

Fixed assets as a percent of current liabilities= $\frac{\text{Fixed Assets}}{\text{Current liabilities}}$

3. **TOTAL ASSETS TURN OVER RATIO**:

The ratio is calculated by dividing the net sales by the value of total assets that is (net sales/total investment) or (sales/total investment). A high ratio is an indicator of over trading of total assets while a low ratio reveals idle capacity. The traditional standard for the ratio is two times. $= \frac{\text{Net sales}}{\text{Total Assets}}$

4. **FIXED ASSETS TURNOVER RATIO**:

The ratio expresses the no. of times fixed assets are being turned over in a stated period. It is calculated under.

$= \frac{\text{sales}}{\text{Net fixed assets (after depreciation)}}$

This ratio shows how well the fixed assets are being used in business. The ratio is important in case of manufacturing concern because sales are produced not only by use of current assets but also by amount invested in fixed assets the higher ratio, the better is the performance. On the other hand, a low ratio indicates that fixed assets are not being effectively utilized.

5. RETURN ON TOTAL ASSETS:

$= \frac{\text{Profit after tax}}{\text{Total assets}}$

This ratio is calculated to measure the profit after tax against invested in total assets to ascertain whether assets are being utilized properly or not.

The higher the ratio the better it is for the concern.

Let us use ratios in the (ULTRATECH CEMENT LTD) information:

FIXED ASSETS TO NET WORTH RATIO

The ratio indicates the extent to where the shareholders' funds are struck in the fixed assets. The formula to compute fixed assets to net worth is calculated as follows:

$$\frac{\text{Fixed assets (after depreciation)}}{\text{Net worth}}$$

NET WORTH =share capital + reserves and surplus + retained earnings-net loss.

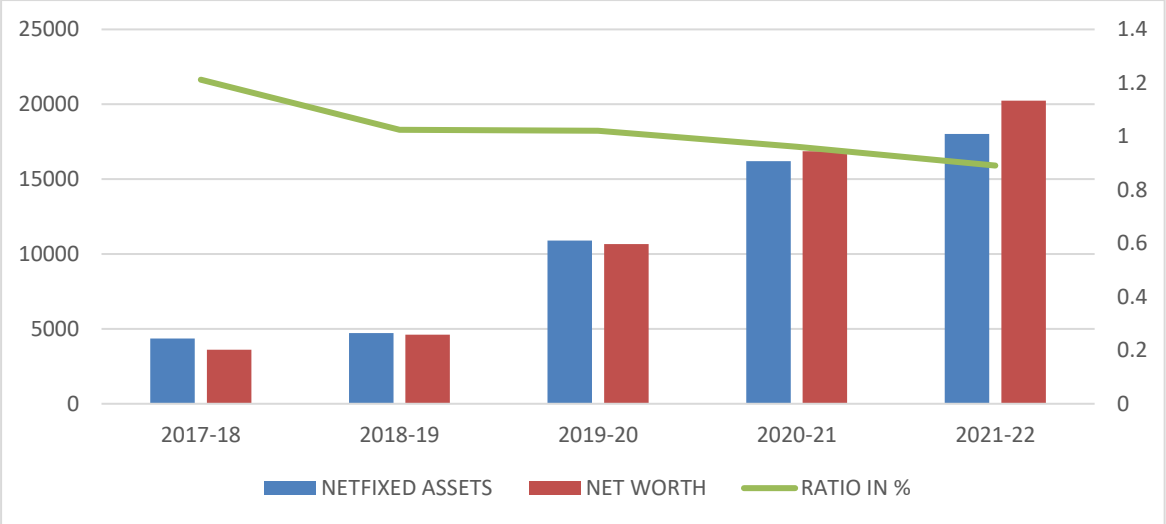
If the ratio is less than 100% it implies that owner's funds are more than the fixed assets and the shareholders and vice versa provide a part of working capital.

$$\text{Fixed assets to net worth ratio} = \frac{\text{Net fixed assets}}{\text{Net worth}}$$

TABLE -4.4 FIXED ASSETS TO NET WORTH RATIO (IN CR)

YEAR	NETFIXED ASSETS	NET WORTH	RATIO IN %
2017-18	4365.38	3602.10	1.21189
2018-19	4720.99	4608.65	1.02437
2019-20	10890.33	10666.04	1.02102
2020-21	16206.17	16859.82	0.96123
2021-22	18025.20	20234.82	0.89080

FIGURE -4.4: FIXED ASSETS TO NET WORTH RATIO



INTERPRETATION: The above table shows a continuous increase in net worth and fixed assets. This shows the satisfactory position of the company.

FIXED ASSET RATIO:

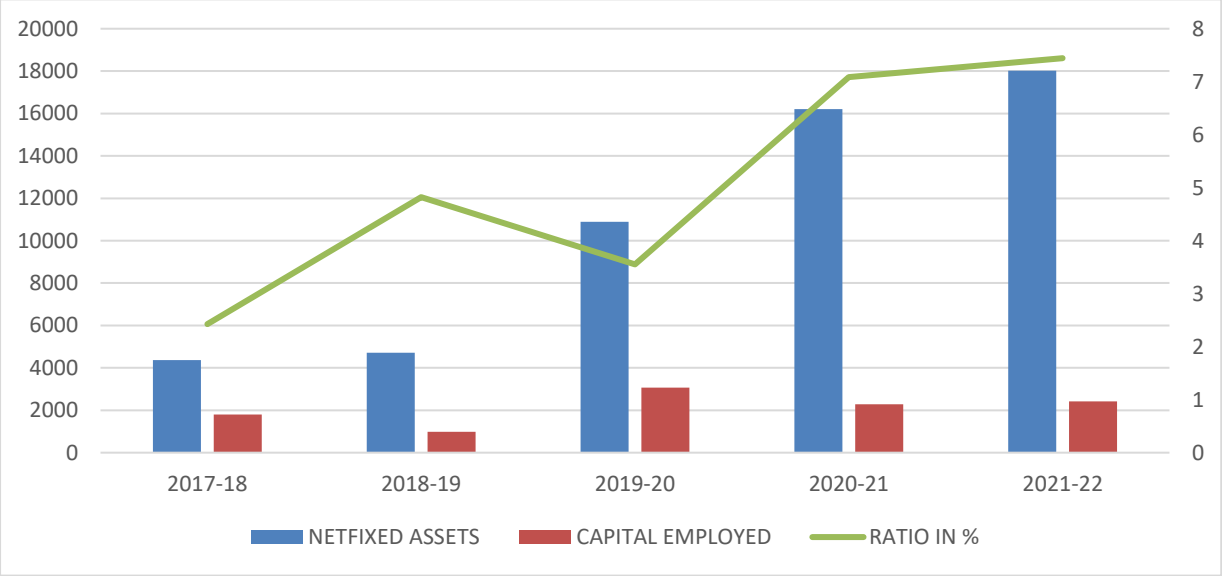
Capital employed=shareholders fund + Long-Term borrowings

$$\frac{\text{Fixed assets (after depreciation)}}{\text{Capital Employed}}$$

TABLE-4.5 FIXED ASSETS RATIO **(IN CR)**

YEAR	NETFIXED ASSETS	CAPITAL EMPLOYED	RATIO IN %
2017-18	4365.38	1799.57	2.42579
2018-19	4720.99	978.68	4.82383
2019-20	10890.33	3063.83	3.55448
2020-21	16206.17	2286.20	7.08869
2021-22	18025.20	2421.52	7.44375

FIGURE 4.5 FIXED ASSET RATIO



INTERPRETATION

The above table shows growth in fixed assets satisfactory position of fixed assets in the company. Long term funds show less fluctuation, there is no change the highest percent 5.79 recorded in the year 2021-22. That shows the position of the company is satisfactory.

FIXED ASSETS AS A PERCENTAGE TO CURRENT LIABILITIES:

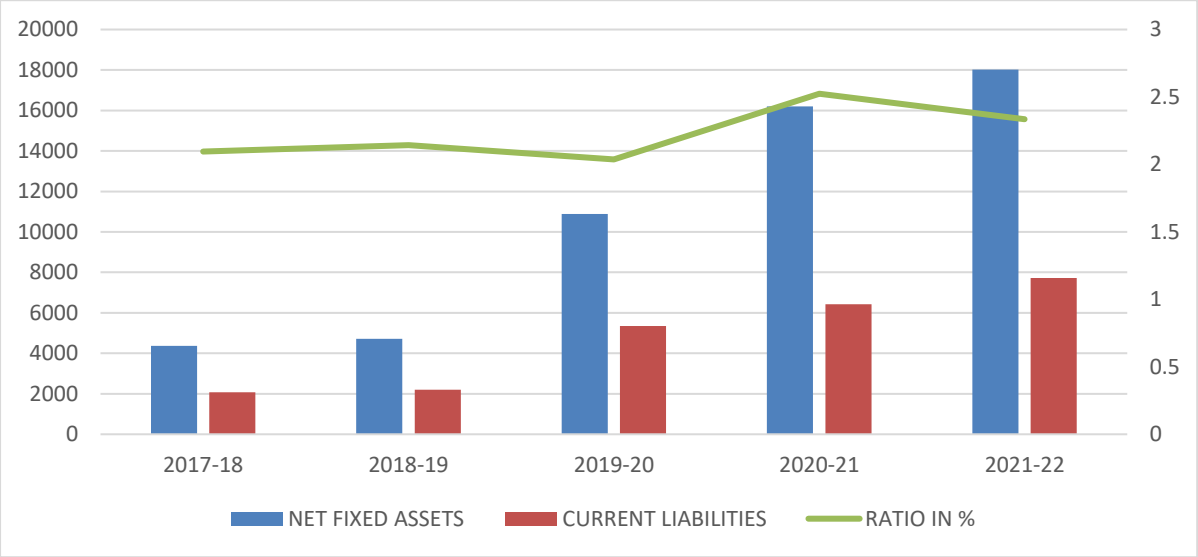
Fixed assets as a percentage to current Liabilities

$$= \frac{\text{fixed assets}}{\text{Current Liabilities}}$$

TABLE-4.6FIXED ASSETS AS PERCENTAGE TO CURRENT LIABILITIES (IN CR)

YEAR	NET FIXED ASSETS	CURRENT LIABILITIES	RATIO IN %
2017-18	4365.38	2082.39	2.09633
2018-19	4720.99	2203.61	2.14238
2019-20	10890.33	5345.56	2.03726
2020-21	16206.17	6420.48	2.52413
2021-22	18025.20	7715.26	2.33630

FIGURE -4.6 FIXED ASSET AS PERCENTAGE TO CURRENT LIABILTIES



INTERPRETATION:

The above table shows the relationship between fixed and current Liabilities. The above table shows growth in fixed assets this shows the satisfactory position of fixed assets in the company. Even the current liabilities are increasing. The highest percentage recorded was in the year 2021-22 i.e., 2.20 and the lowest was in the year 2018-2019 i.e., 1.81.

TOTAL INVESTMENT TURN OVER RATIO:

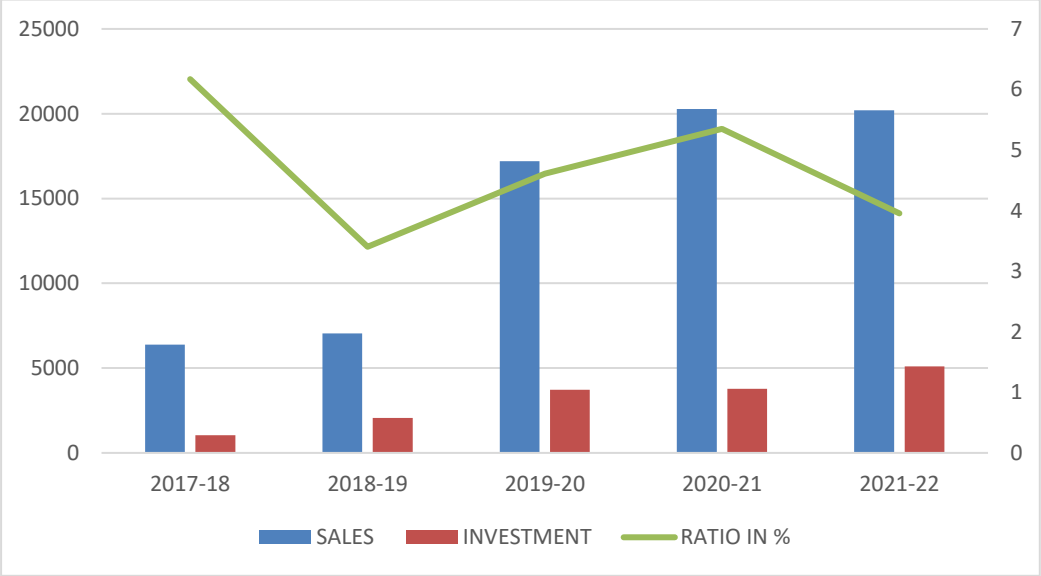
The total investment turnover ratio can be calculated by the formula as given under

$$\text{Total investment ratio} = \frac{\text{sales}}{\text{Total investment}}$$

TABLE -4.7 TOTAL INVESTMENT TURN OVER RATIO (IN CR)

YEAR	SALES	INVESTMENT	RATIO IN %
2017-18	6385.50	1034.80	6.17075
2018-19	7042.82	2069.55	3.40306
2019-20	17205.64	3730.32	4.61237
2020-21	20270.69	3788.77	5.35020
2021-22	20204.94	5108.72	3.95499

FIGURE-4.7 TOTAL INVESTMENT TURN OVER RATIO



INTERPRETATION

From the above table we can see that sales had an increase in Investment is constant from 2018-2019 that signifies the company position is satisfactory.

FIXED ASSETS TURN OVER RATIO:

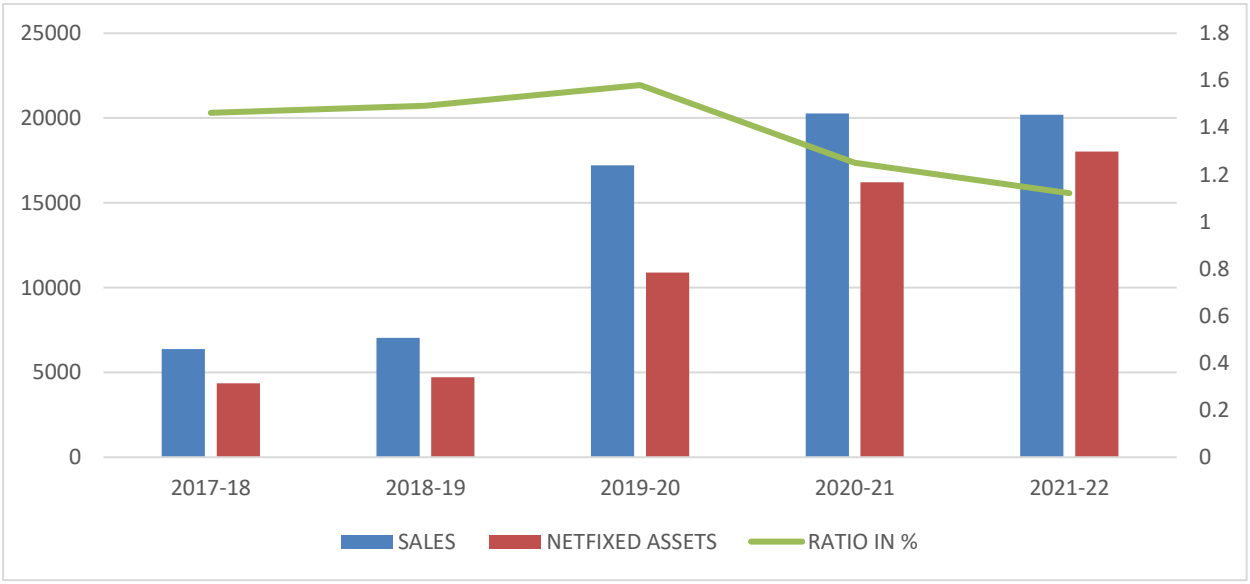
The fixed assets turnover ratio is a relation between the sales or cost of goods and fixed/capital assets employed in a business.

$$\text{Fixed assets turnover ratio} = \frac{\text{sales}}{\text{Total fixed asset}}$$

TABLE-4.8 FIXED ASSETS TURN OVER RATIO (IN CR)

YEAR	SALES	NETFIXED ASSETS	RATIO IN %
2017-18	6385.50	4365.38	1.46275
2018-19	7042.82	4720.99	1.49181
2019-20	17205.64	10890.33	1.57990
2020-21	20270.69	16206.17	1.25080
2021-22	20204.94	18025.20	1.12092

FIGURE-4.8FIXEDASSETSTURNOVERRATIO



INTERPRETATION

The above table shows increases in Net fixed assets. That can also be seen clearly in sales, that indicates a good sign.

RETURN ON TOTAL ASSETS:

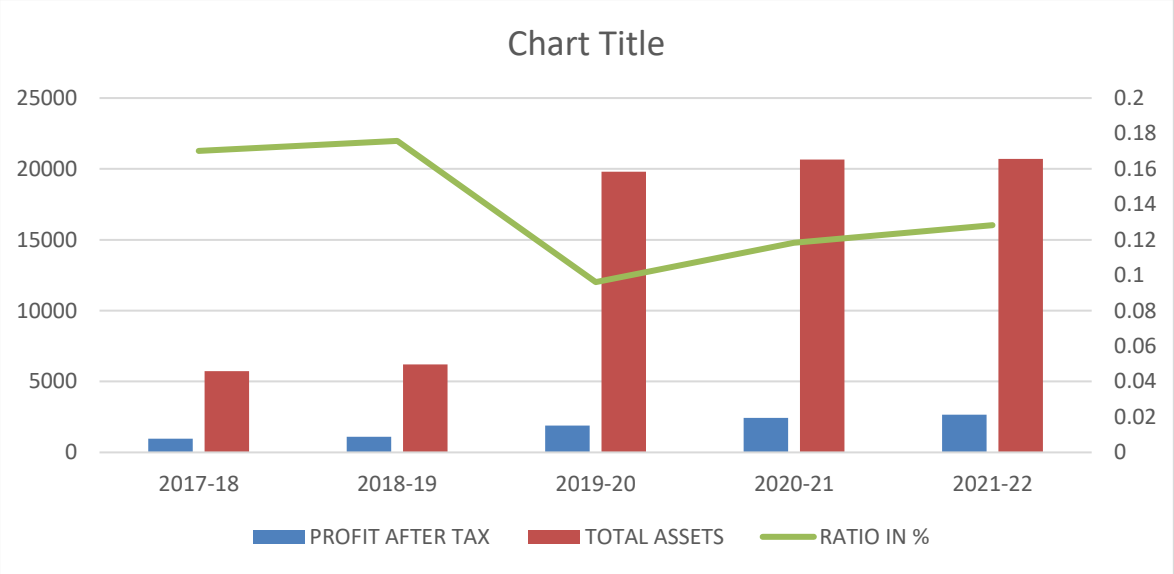
The return on fixed assets can calculate as under:

$$\text{Return on fixed assets} = \frac{\text{profit after tax}}{\text{Total Assets}}$$

TABLE NO-4.9 RETURN ON TOTAL ASSETS (IN CR)

YEAR	PROFIT AFTER TAX	TOTAL ASSETS	RATIO IN %
2017-18	977.02	5743.73	0.17010
2018-19	1093.24	6218.20	0.17581
2019-20	1904.23	19810.64	0.09612
2020-21	2446.20	20667.95	0.11835
2021-22	2655.43	20697.50	0.12829

FIGURE NO-4.9 RETURN ON TOTAL ASSETS



INTERPRETATION

The above table shows increase in profit 2021-2022 profit has raise up. This shows the favorable position of the company.

VALUATION OF FIXED ASSETS:

ULTRATECH CEMENT LTD Follows

1) Historical cost method in the valuation of fixed assets.
2) The fixed assets do not include assets acquired on sale-cum-lease basis from various Financial Institutions whereon the lease rent paid for the year is charged to revenue.
3) Plant and Machinery includes the value of Air Conditioning Plants at various units which were transferred and vested with the Corporation under the transfer scheme. The gross value and depreciation thereon are not segregated in the absence of break up details under the transfer scheme. The value thereof, however, is insignificant.
4) Investments are intended for long term and are carried at cost. Income on investment is accounted on accrual basis.
5) Capital expenditure on assets not owned by the company is reflected as a distinct item in capital WIP till the period of completion and therefore in the Fixed assets.
6) The Company evaluates the impairment of losses on the fixed assets whenever events or changes in circumstances indicate that their carrying amounts may not be recoverable. If such assets are considered to be impaired the impairment loss is then recognized for the amount by which the carrying amount of the assets exceeds its recoverable amount, which is the higher of an asset's net selling price and value in use. For the purpose of assessing impairment, assets are grouped at the smallest level for which, there are separately identifiable cash flows.
7) Fixed assets are adjusted in their carrying cost in respect of foreign currency transactions entered before 1-4-2018 and that related to current assets is recognized as revenue/expenditure during the year.
8) In case of commissioned assets, where final settlement of bills with contractors is yet to be affected, capitalization is done on provisional basis subject to necessary adjustment in the year of final settlement.

CALCULATION OF DEPRECIATION:

Depreciation methods followed by **ULTRATECH CEMENT LTD** is as follows:

1) Depreciation is charged on straight-line method as per rates notified by the Government of India.
2) Depreciation is provided on pro-rata basis in the year in which the asset becomes available for use.
3) Where the cost of depreciable assets has undergone a change during the year due to increase/decrease in long term liabilities on account of exchange fluctuation, price adjustment, change in duties or similar factors, the unamortized balance of such asset is depreciated prospectively over residual life determined on the basis of the rate of depreciation.

CHAPTER-5
SUMMARY AND CONCLUSIONS

5.1 FINDINGS

After analyzing the financial position of **ULTRATECH CEMENT LTD** and evaluating its fixed assets management or capital budgeting techniques in respect of analysis, trend analysis and ratio analysis, the following conclusions are drawn from the project preparation. The progress of **ULTRATECH CEMENT LTD** shows that there is an increase in Net block considerably over the year that the investment in the net block is in increase trend. It increased during the year 2018-2022 and it has 4 7.86%.

- Regarding to the fixed assets to net worth ratio shows a continuous increase in net worth and fixed assets. This shows the satisfactory position of the company.
- Regarding the long-term funds to fixed assets they show an increase.
- Regarding the total investment turnover ratio, it is observed sales had an increase from 2018-2022.
- Regarding the Fixed Asset turnover ratio, sales had an increased.
- Regarding the Return on total assets ratio, it has been observed that there is increases in profit. This shows the favorable position of the company.
- From the above study it can be said that the **ULTRATECH CEMENT LTD** overall financial position on fixed assets is satisfactory.

5.2 SUGGESTIONS

- It is suggested to improve the position of the company by effective's utilization of fixed assets.
- Growth rate in fixed assets can be increased by employing more investment.
- Total investment to sales can be improved.
- Instead of disclosing the combined flows of debtors and loans and advances as decrease/(increase) in trade and other receivables, their separate disclosure will be more meaningful.
- Globalization of economies and the requirement of shares from investors in capital market, diverse and demanding audience to the company, need a clear and in-depth in information about the company's financial position in Annual report.

5.3 LIMITATIONS OF THE STUDY

- The study is conducted in a short period, which was not detailed in all aspects.
- Non-availability of confidential financial data.
- Lack of time is another limiting factor.
- This report is not helpful in investing in ULTRATECH CEMENT LTD.
- The accounting procedure and other accounting principles are limited by the changes made by the company, may vary fixed assets performance.

5.4 CONCLUSION

The Fixed asset management of **ULTRATECH CEMENT LTD** is quite comfortable with a judicious mix of debt and equity. The overall assessment of financial statement signifies efficient utilization of the investments, loans and advances. The profitability of the company appears to be impressive, as judged by increase in reserves and surplus.

The management discussions and analysis by Director's report and opinions expressed by Auditor's report through fixed asset management statements is true and fair view in accordance with the provisions of the companies Acts, and accounting standards.

The overall fixed asset management of the company appears to be more than satisfactory.

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