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## A CASE STUDY ON "VALUATION OF MACHINERIES OF GANPATI ENGITECH PVT.LTD."

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**Abstract:** Valuation is the analytical process of determining the current worth of an asset or a company. Simply, valuation is the technique of determining the current market value of the property such as industrial, residential, commercial, agricultural land. Value is determined on basis of its selling price and rent or income it can fetch. The purpose of this is to introduce people with general field practice of valuation. This study covers the methodology verified by the government approved valuer and concerned field expert. The finding of this study is likely to have important implications in the valuation profession. This study exposes users directly to valuation practices that are really employed in the field, allowing them to compare theories with actual technique. This study will generate debate and emphasise the need for a theory to support a well-established valuation process.

This is done to ascertain the market value of assets related to machinery and plants. in Pune, Maharashtra, India, at Ganpati Engitech Pvt. Ltd., four VMCs (vertical milling machines) should be valued fairly. The owner can more easily determine the financing for the property and comprehend the actual status of the economy thanks to this investigation. The property owner can better comprehend the asset's genuine cost with the help of the valuation.

**Keywords:** Valuer, Valuation, Market Value, Finance, Industrial Property, Methodology, and Field Practice.

### I. INTRODUCTION

It is possible to define valuation as the process of estimating value. The circumstances of the case, such as the structure, life, maintenance, location, etc., determine the value of the property. The primary subject in business and finance is the valuation of companies and projects. In the economy, valuation is mostly done for financial operations like investment, buying and selling, loans and mortgages, etc.

A property valuation is an examination done to help ascertain the property's current market value. An estate agent or independent valuer normally takes on this task, based on the directions of the seller or a financial institution that is contemplating financing the purchase. In addition to structural studies that evaluate the property's physical condition, buyers may ask for a property valuation if they are thinking about buying a property.

A lending organisation (like a bank) may ask for a valuation before offering a mortgage or refinancing to make sure the loan can be paid off by the security value of the property. This offers them the assurance to lend the money since they know that if the mortgage is not repaid, they may get their money back by selling the house.

Lending banks frequently use preferred licenced property valuers. Property valuations are typically performed by estate agents on behalf of property sellers. It's possible that an estate agent's appraisal and a licenced valuer's valuation differ. This is so because real estate brokers represent the vendor, or the seller, and are paid a commission depending on the sale price of the property. As a result, they might be more positive about the property's value than a licenced valuer who must base their appraisal on facts and up-to-date information because they are legally responsible for the information they offer.

Sellers must make sure the property is as clean and orderly as possible before the appraisal because this might affect the value, as well as the condition and style of the furnishings, decorations, and other items.

Typically generated as a report, a property appraisal may include the following details in addition to photos and plans:

- The machine's or equipment's age.
- An explanation of how the sector was built.
- The size of the industry's buildings and land.
- Making use of the device.
- Information on fittings and fixtures.
- The state of one's body, damage, etc.
- Information on any problems that need to be fixed.
- Deterioration brought on by the environment.
- Local sales comparisons.

- Make use of class-specific and existing approvals, such as zoning permits.
- Future development plans that could affect the property's value.
- A reduction in functional ability.
- The machinery's effectiveness.
- The equipment's power usage. Raw Material availability

A property will often be compared to other comparable properties in the neighbourhood in order for the assessment to be as fair and accurate as feasible. Valuers will look at council zoning, bylaws, and planning constraints. Additionally, factors including the neighborhood's reputation and attractiveness, market demand, and amenities (such schools, hospitals, green spaces, and so on) will be taken into account.

## II. DEPRECIATION

From the Latin term "DEPRETIATUM," it is derived. Depreciation is the loss of service value brought on by the use of an asset over time. Depreciation causes an asset to eventually lose all of its value.

Depreciation is either "curable" or "incurable," where "curable" refers to the physical degeneration and functional obsolescence that is economically viable to address (IVSC, 2010).

The following are the causes of depreciation:

- ❖ Wear and tear
- ❖ Obsolescence
- ❖ Fall in Market Value
- ❖ Decay
- ❖ Accidents like fall of a tree
- ❖ Change in demands
- ❖ Changes in Arts and fashion
- ❖ Structural deterioration
- ❖ Calamity like flood, lightning etc.
- ❖ Actions of elements of nature like heat, cold, wind etc.

Depreciation can be calculated in accounting using a number of different ways. Depending on its requirements, a business may choose any of these approaches to computing depreciation. The following are some techniques for determining depreciation:

- Straight-line method
- Written down Value method
- Annuity method
- Sinking Fund method
- Production Unit method

So let us study the methods of calculating depreciation in detail.

### 1. Straight-line Method

The straight-line method of depreciation is the most simple and easy to use depreciation method. It is the most commonly used method of depreciation. It is also called the Original cost method, Fixed Instalment method or Equal Instalment method. Under this method, the depreciation calculation is done by deducting the residual value from the Cost of the asset and then the amount is divided by the number of years the asset was used for or its useful life. The same amount of depreciation is charged every year on the original cost of the asset. The amount of depreciation is charged to the Profit and Loss Account every year. For better understanding, we have given the straight-line depreciation formula.

**Straight-line Method Formula is:**

$$\text{Depreciation Formula: } \frac{\text{Cost of Asset} - \text{Residual Value}}{\text{Useful life of the}}$$

$$\text{Depreciation Rate Formula: } \frac{\text{Amount of Depreciation}}{\text{Original Cost of the Asset}} \times 100$$

### 2. Written Down Value Method

The written down value method also known as diminishing balance method or reducing balance method is a method of calculating depreciation in which a fixed percentage of depreciation is charged on the reducing value of the asset every year. While calculating depreciation in the diminishing balance method, the salvage value of the asset is not taken into consideration. The amount of depreciation decreases every year under this method. The diminishing depreciation method is calculated by the formula:

$$\text{Depreciation, reducing balance method: } \frac{\text{Rate of Depreciation}}{100} \times \text{Book Value}$$

$$\text{Calculation of depreciation rate under diminishing balance method: } 1 - (s/c)^{1/n} \times 100$$

Where, S is the scrap value of the asset

C is the cost of the asset and n is the useful life of the asset.

Some companies or organizations also use the double-declining balance method, which results in a large amount of depreciation expense. Double declining balance method is a type of diminishing balance method in which the depreciation factor is 2X than the straight-line method.

Double Declining Balance Method Formula:

$$\text{Depreciation} = 2 \times \text{SLDP} \times \text{BV}$$

Where, SLDP is Straight-line Depreciation Percentage  
BV is Book Value

### 3. Annuity Method

The annuity method of depreciation calculates depreciation on the asset by calculating its rate of return. This method considers the asset as an investment. It takes into consideration the internal rate of returns on the cash outflows and inflows of the asset.

Depreciation cost formula under the annuity method is:

$$\text{Depreciation} = (\text{Cost of the Asset} - \text{Residual Value}) \times \text{Annuity factor}$$

### 4. Sinking Fund Method

The Sinking fund method of depreciation is a method of calculating depreciation where enough amount is accumulated at the end to replace the asset at the end of its useful life. Here the amount of depreciation is charged to a sinking fund account which is invested in various government bonds and securities. The interest earned from these securities is used to replace the asset.

Sinking Fund Depreciation Method Formula:

Depreciation Value Formula:  $(\text{Cost of the asset} - \text{Residual value}) \times \text{Present value of Rs. 1 at sinking fund tables for a given rate of interest}$

### 5. Production Unit Method

The Production unit method takes into consideration the number of units that the machine has produced in a year. The depreciation cost depends on how much the machine or asset has been used over a year. The amount of depreciation formula under this method is:

$$\text{Depreciation} = \frac{\text{Estimated Total Cost} - \text{Residual Value}}{\text{Estimated Total Output}} \times \text{Actual Output during the year}$$

## ❖ Features of Depreciation and the Methods

Every asset has only a timely use. And with that, the value has declined accordingly. So the measure of declination of asset value over the period is calculated with depreciation. And the following methods; straight-line method, written down value method, production unit method, annuity method, sinking fund method have their features making the depreciation process unique.

The major features of depreciation are listed below:

- By the usage, obsolescence or time that have passed, there is a loss of value occurred for the assets. And it is included in it.
- The booked value of fixed assets that have affected a declination is what depreciation is.
- Depreciation is a continuous process until the useful life period of the asset.
- We must deduct the cost of expiration, that is depreciation before calculating the taxable profit.
- It doesn't involve cash flow. Hence it can be called a non-cash expense.
- The loss measured must be constant and gradual.
- In depreciation, maintenance cannot be included.

## III. CASE STUDY

VALUATION REPORT	
Year	26th May 2022
Property Owner Name	Dipak Ramrao Narale
Property Address	“Ganpati Engitech Pvt. Ltd.” Situated At Plot No. D-65, Near Bhamchandra English Medium School, Chakan Phase 2, Bhamboli, Pune, 410501”
If the asset is under joint Ownership/Co-ownership, share of each owner	Unlisted Private Company
Latitude, Longitude	18°47'59.3"N 73°45'54.6"E
Reference Date	3rd Jan 2021
Valuer	XYZ
Valuer Address	----
Date of Inspection	25th Feb 2022
Valuation Instructed By	XYZ Bank, Aundh Branch, Pune
Purpose of Valuation	To Assess the Fair Market Value of 4 Nos.- VMC Machines situated in Ganpati Engitech Pvt.Ltd.
Brief Description	Ganpati Engitech Private Limited is an unlisted private company incorporated on 03 March, 2020. It is classified as a private limited company and is located in Pune, Maharashtra. Ganpati Engitech Private Limited is registered for doing Manufacturing (Machinery & Equipment's) works. The Ganpati Engitech Private Limited has been registered in Private Class.
Age of Company	3 years

## VALUATION OF PLANT AND MACHINERY (corrugation machine) at JAI GANESH ENTERPRISES.

Sr. No.	Name of M/C	Qty.	Present day Replacement value of identical M/C	Age of M/C	Future expected life	Assessed fair Market Value As on 5th Jan 2021
			(Rs.)	(Yrs.)	(Yrs.)	(Rs.)
1.	BFW BMV60+ Vertical Milling Machine	1	45,00,000/-	3	12	36,90,000/-
2.	BFW BMV60+ Vertical Milling Machine	1	45,00,000/-	1	14	42,30,000/-
3.	Jyoti RX – 20	1	30,50,000/-	3	12	25,01,000/-
4.	Jyoti RX – 20	1	30,50,000/-	1	14	28,67,000/-
Total						1,32,88,000/-
Less, Obsolescence Factor** @ 7.5% - on Rs. 1,32,88,000/-						
OBsolescence Factor**						(-) 9,96,600/-
With the rapid technological development Modern day Machines with advanced Features and latest design are more precise, faster in production, economical in working, less labor oriented and more reliable. As such, an Obsolescence factor of 7.5% has been adopted to arrive at the fair Assessed Value.						1,22,91,400/-
						Say 1,22,92,000/-
<b>Thus, Total Valuation of Machines = Rs. 1,22,92,000/-</b>						

**BASIS OF VALUATION**

This refers to assess the Fair Market Value of 2 Nos. BFW BMV60+ Vertical Milling Machin and 2 No. Jyoti RX – 20 machines by Mr. Dipak Shamrao Narale and being operated in the Factory premises of M/s Ganpati Engitech Pvt Ltd. This study helps owner to know the actual condition of industry and simplify the finance amount of the property. The valuation of the property helps the owner of the property to know the actual rate of the property. The Equipment's are of reputed „Make“ and have been found well maintained and in satisfactory working condition. The Equipment's are of reputed 'Make' and have been found well maintained and in satisfactory working condition.

Column No.4 shows the replacement value of a new and almost identical Machine. This is the price one is required to incur-if an Equipment having almost identical specification is procured as on date of valuation. This has been arrived at adding the basic price (as given by supplier/manufacturer with the freight and transit insurance charges and also includes the installation expenses).

Column No.5 shows the age of machine and Col. No.6 in the report shows its expected Useful working life-depending on the plant-load duty and the overall condition. The Estimated Useful life of a Machine/Equipment is the period/duration of time the asset is productively employed. The Equipment may be operated even beyond the estimated Useful life-which is known as its "Physical Life"-but only at a heavy maintenance cost, high fuel/energy consumption and unreliable output because of frequent breakdowns.

For calculating depreciation, straight line method of depreciation has been adopted, a suitable and reasonable usable future expected life of Equipment has been presumed after giving strictly due consideration to its actual present day overall operating condition, maintenance, extent of wear sustained owing to the nature of plant duty and the formula used to arrive at the depreciation is as:

$$\text{Depreciation "F"} = \frac{\text{Age in year}}{(\text{Age in year} + \text{Future life expectancy in years})} \times 0.90^*$$

\* Salvage value has been considered as 10%

Total Depreciation = Replacement Value x F

And, Fair Assessed Value = (Replacement Value - Total Depreciation)

#### IV. RESULT AND DISCUSSION

As a result of thorough inspection, appraisal and analysis and taking into consideration present day replacement cost of similar machines, their general overall condition, upkeep and other factors such as age, obsolescence and economy of operation-viz-a-viz latest and new items incorporating improved design/ technique, in my considered opinion, Fair Market Value of the Four Nos. of VMC Machines Situated in Ganpati engitech PVT.LTD. under reference as on date works out as Rs.1,22,92,000/-(INR One Crore Twenty Two Lakhs Ninety Two Thousands Only).

#### V. CONCLUSION

This project is done for understanding the valuation process of plant and machinery in guidance of Mr. AmolRaundal my project guide. This project gives the knowledge of calculating the Fair Market Value of the Machines.

The assessment of the Fair Market value was carried out at asset level. The aggregate of the individual Fair Values presented here takes account of the marketing period and the transaction costs of the individual assets and does not reflect any discounts or premiums on the sales of the whole portfolio or if part of the portfolio was to be marketed simultaneously or in lots.

The industry under valuation is "Ganpati Engitech Pvt. Ltd." Situated At Plot No. D-65, Near Bhambachandra English Medium School, Chakan Phase 2, Bhamboli, Pune, 410501". The age of company is approx. 3 years. The company activity of 4 Nos. of VMC Machines -(Being operated in factory premises of-M/s. Ganpati Engitech Pvt. Ltd.).

To Assess the Fair Market Value of 4 Nos.-VMC Machines. There are no negative values to the report.

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