

# Calculating ROI for a Pharma Industry on the implementation of Fixed Assets Physical tracking with Bar-coding

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## Introduction

How many times have Executive management and support staffs faced the embarrassing situation of not finding the required equipment or instrument while working on or performing a critical procedure on a manufacturing or research project?

How many times have administrators been inundated with requests for new or old equipments to be replaced urgently, though they may not be needed immediately?

How many times one walks into an office meeting and finds crucial equipment from the research lab / shop floor lying un-noticed and un-used in the conference hall?

How many times the finance manager would have sanctioned for machinery and equipment when another unit may have the same machines and equipment without a use or underutilized?

Why? All for the lack of complete information on the Assets that they hold in their organization.

Do they know the state of the old equipment or about the need for the new equipment or its costs?

Is anyone aware of the physical location of the equipment or instrument?

Does the senior management know of the ROI on the equipments used in their organization?

Return on Investment is one of several profitability ratios, one of the four basic classes of financial ratios-the others being:

- ▶ liquidity ratios,
- ▶ activity ratios and
- ▶ debt ratios.

The Return on Investment, often called a company's return on total assets, measures the overall profit made on an investment expressed as a percentage of the amount invested.

Like return on assets, or return on equity, Project wise Return on Investment (P-ROI) measures a Project's profitability and the management's ability to generate profits from the funds invested for a particular project.

It is often said that if a project cannot generate net profit as a percentage of the amount invested, and if it is not greater than the interest rate on financial markets, the project expenditure is said to be grim.

Fixed asset turnover is the ratio of sales (on the Profit and loss account) to the value of fixed assets (on the balance sheet). It indicates how well the business is using its fixed assets to generate sales.

$$\text{Fixed Asset Turnover} = \frac{\text{Sales}}{\text{Average net fixed assets}}$$

Generally speaking, the higher the ratio, the better, because a high ratio indicates the business has less money tied up in fixed assets for each dollar of sales revenue. A declining ratio may indicate that the business is over-invested in plant, equipment, or other fixed assets.

## What to Do

The basic Return on Investment can be found by dividing the net accrued profit (also called net earnings) by the total investment, and multiplying by 100 to arrive at a percentage:

$$\text{Net profit} / \text{total investment} \times 100 = \text{Return on Investment}$$

So if net profit is Rs.30 and the total invested is Rs.250, the Return on Investment is:

$$30 / 250 = 0.12 \times 100 = 12\%$$

A more complex variation of Return on Investment is a formula known as the Du Pont formula, which allows a company to break down its Return on Investment into a profit-on-sales component and an asset-efficiency component, and is:

$$(\text{Net profit after taxes} / \text{total assets}) = (\text{net profit after taxes} / \text{sales}) \times \text{sales} / \text{total assets}$$

So if net profit after taxes is Rs.30, total assets Rs.250, and sales Rs.500, then:

$$30 / 250 = 30 / 500 \times 500 / 250 = 6 \times 2 = 12\%$$

This formula was developed by the Du Pont Company in the 1920s, and helps to reveal how a company has deployed its assets and controlled its costs, and how it can achieve the same percentage return in different ways.

### Here's an example of the final results for a ROI analysis in a pharma company:

|  |            |
|--|------------|
| Duration of Project including the training | 25-30 days |
| Estimated numbers of man hour days         | 720        |
| Period over which benefits are calculated  | 12 months  |

## Costs

|   |              |
|---|--------------|
| Software costs for 5 user WAN version               | Rs.1,25,000  |
| Tracking of approx.10,000assets@20-30/= per asset   | Rs.3,00,000  |
| Bar-coding @ Rs.5/= per asset for app.10,000 assets | Rs.0,50,000  |
| Cost of Data Mining & Porting for app.10,000 assets | Rs.01,20,000 |
| Implementation and support for 6 months             | Rs.0,00,000  |
| Annual Software Maintenance                         | Rs.0,25,000  |
| Training  | Rs.0,00,000  |
| Evaluation of project                               | Rs.0,00,000  |
| Total cost  | Rs.06,20,000 |

| <b>Benefits</b>  |                    |
|--|--------------------|
| Benefits for an assets capitalization of Rs.10,00,00,000   |                    |
| Labour savings due to non-deployment of company staff<br>@5,000 X 8 X 30   | App.Rs.12,00,000   |
| Productivity increases due to identification of missing & under-utilised assets<br>Like identifying an unused Ribbon mixer, unserviced Form-fill-seal machine,<br>X-Ray Diffraction machine etc. | App.Rs.1,10,00,000 |
| Other cost savings like scraped assets sales, assets misappropriation<br>prevention etc  | App.Rs.20,00,000   |
| Other income generation like negotiations for AMCs of assets,<br>Insurance of Assets, Service & Maintenance of assets etc.,  | App.Rs.05,00,000   |
| Total benefits   | App.Rs.1,57,00,000 |
| Return on investment   | 253.22%            |
| Payback period   | 12 months          |

## Other Intangible Benefits

- ▶ No need for deployment of staff for annual assets tracking & management
- ▶ Complete knowledge of all transfer of assets between, unit between departments, between custodians etc., leading to complete control and ZERO loss of assets
- ▶ Complete history of each asset with the service, repairs, AMC, Insurance and inward-outward movement leading to control on costs and negotiation power with service providers
- ▶ Master & Sub-Assets registers with ability to deploy assets as per needs preventing non or under-utilization and repeat purchases
- ▶ Identification of temporary needs of expensive machinery or equipment and arranging for Lease hire and cost control on leased assets
- ▶ Identification of excess assets and under-utilized assets fit for hiring to
- ▶ units needing them for short periods, bringing in much needed other incomes
- ▶ Asset Image captured register useful for training new recruits

## **Simplifying the process**

If you've been following through all of these steps, then you'll have realised just how many calculations are involved in conducting a thorough analysis.

Some may start to look at areas such as opportunity costs and productivity benefits, which are beyond the scope of this project.

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