HSS 201: Economics for Engineers

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Total Revenue, Total Cost and Profit

Total Revenue: The amount that a firm receives after selling his produce.

Total Cost: The amount that is incurred by the firm in producing the goods he sells.

Profit = Total Revenue - Total Cost

A profit maximizing firm has two options

1. Output Maximization subject to Cost Constraint
2. Cost Minimization subject to Output Constraint

Opportunity, Explicit and Implicit Cost

Opportunity Costis the cost associated with the opportunities that are forgone by not putting the firm's resource to their best alternative use.

Example: Adobe, owns the office space in Noida. The accountant would therefore say that, there is no cost associated with the office space. However, the economist would have checked if the office space would have been rented out, how much income would Adobe have earned. This earning which Adobe has forgone is called the opportunity cost.

Wages and Salaries paid to laborers is also an opportunity cost. The money paid in the form of wages and salaries could be used to buy some machines that substitutes laborers.

Opportunity, Explicit and Implicit Cost

Explicit or Out of Pocket Cost: Input cost that require an outlay of money by the firm.

Implicit Cost: Input cost that do not require an outlay of money by the firm.

In economics, decision are taken based on both explicit and implicit cost. While in accounting, decision is taken based only on explicit cost.

Private and Social Cost

Private Cost: These are those cost that are concerned with the firm.

Social Cost: These cost are not borne by the firms. It is borne by the society as a whole.

There is a cement plant located in the slopes of a mountain. In the valley, however there is a catchment area of fish. As the cement factory produces, it pollutes the nearby river by throwing waste materials.

Cost of producing cement is the private cost; while the social cost is associated with the pollution.

Total, Marginal and Average Revenue

Total Revenue (TR) = $P \times Q$

Margina Revenue (MR) = $\frac{dP}{dQ}$

Average Revenue (AR) = $\frac{TR}{Q} = P$

Average Revenue is Average revenue curve of a firm is same thing as the demand curve of the consumer. Thus, it means price of the product.