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Cardinal Utility Analysis

A consumer usually decides his demand for a commodity on the basis of utility (or satisfaction) that he derives from it. What is utility?

Utility of a commodity is its want-satisfying capacity. The more the need of a commodity or the stronger the desire to have it, the greater is the utility derived from the commodity.

Utility is subjective. Different individuals can get different levels of utility from the same commodity. For example, someone who likes chocolates will get much higher utility from a chocolate than someone who is not so fond of chocolates, Also, utility that one individual gets from the commodity can change with change in place and time. For example, utility from the use of a room heater will depend upon whether the individual is in Ladakh or Chennai (place) or whether it is summer or winter (time)

In the 19th century, the neo-classical economists like Duipit, Gossen, Walras, Menger and Jevons put forward cardinal utility analysis criticizing the classical thought propagated by Adam Smith, Ricardo and others.

While in 20th Century, Marshall and Pigou further elaborated Cardinal Utility Analysis. According to this analysis utility can be measured in cardinal numbers such as 1, 2, 3, 4 etc. Cardinal numbers either can be added or subtracted.

Fisher has used this term “Util” as measure of utility. Thus in terms of cardinal utility analysis it can be said that one gets from a cup of tea 10 units, 5 units from a cup of coffee.

According to Cardinal utility theory, utility can be measured in cardinal numbers such as 1,2,3,4 etc and these numbers either can be added or subtracted

Measures of Utility:

Total Utility: Total utility of a fixed quantity of a commodity (TU) is the total satisfaction derived from consuming the given amount of some commodity x. More of commodity x

provides more satisfaction to the consumer. TU depends on the quantity of the commodity consumed. Therefore, TUn refers to total utility derived from consuming n units of a commodity x.

Marginal Utility: Marginal utility (MU) is the change in total utility due to consumption of one additional unit of a commodity. For example, suppose 4 bananas give us 28 units of total utility and 5 bananas give us 30 units of total utility. Clearly, consumption of the 5th banana has caused total utility to increase by 2 units (30 units minus 28 units). Therefore, marginal utility of the 5th banana is 2 units.

$MU5 = TU5 – TU4 = 30 – 28 = 2$

In general, $MUn = TUn – TUn\text{-}1$, where subscript n refers to the n^{th} unit of the commodity.