APPLICATION OF CALCULATING ELECTRICITY USAGE UMAH LINEAR TREND STAIRCASE WITH LEAST SQUARE METHOD USING MICROSOFT VISUAL BASIC 6.0

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Abstract:
One way to analyze the electricity consumption of households are using the calculation method in statistical science, namely Trend Linear Least Square Method. With this linear trend can be calculated trend value of electricity consumption for each household. The formula used is:

$$Y_t = a + b\,t$$

Where: Y_t = Total electricity consumption (in KWH)

a = Constant

b = coefficient

t = t Years

The value of a (constant) and b (coefficient) was first found by calculating the value of t I (annual coding), the value of Y_i (the use of electricity in KWH), t_i^2, and $t_i\,Y_i$ value. After that specify the number of t_i, Y_i, t_i^2, and $t_i\,Y_i$. Then determine the values of a and b. Then the equation of linear trend can be determined based on the value of a and b of this. Finally the values of the trend of electricity consumption every month can be obtained by using the linear trend equations.

Based on the trend, it is concluded fluctuations in electricity consumption of each household, whether increased or decreased each month in the period 2001-2003. Information about the fluctuations in electricity consumption of each household is very beneficial for the PLN. PLN parties can know where households are already efficient and inefficient use of electricity. With so can know which households also reflects the principle of saving in electricity consumption.

Bibliography: 5, (1997 - 2001)