

# Mgm600-0803b-02 applied managerial decision-making - phase 4 discussion board

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28 September 2008 Regression Analysis and Its Application in WidgeCorp

Business organizations often rely on the use of statistical tools and techniques in order to make important decisions. One of these frequently utilized tools is the regression analysis which simply put, is the determination of relationship between or among variables. An investigator wanting to know the effects of price increase in the demand for a certain product or the inflation in the price level will be benefited through the use of this technique. Regression analysis is utilized for forecasting, inference, hypothesis testing, and the modeling of causal relationships.

The equation for a regression analysis analyzes the relationship between one dependent variable and one or more independent variables (Curvefit 2008).

In the regression equation, the dependent variable is modeled such that it is a function of the independent variables, constant, and an error term which is an estimation of the variations in the independent variable. A simple regression equation is one which tries to explain the dependent variable with a single explanatory for variable. For example, we know that the level of income of an individual can be explained by education, position, race, gender, and even age. When we would like to isolate the effects or relationship of income with race alone, this is called simple regression.

However, when we take two or independent variables such as education, age, and race, then it is called multiple regressions (Curvefit 2008).

Regression analysis has been a very useful tool in economists who are closely watching the relationship between variables. Regression analysis is used to forecast the GDP growth of the country by looking at the historic GDP data (Regression Analysis 2008). It is also used to determine the relationship

between foreign exchange rate and the money supply in a given country. In business organizations, regression analysis is frequently utilized in order to make important decisions like pricing strategies (Regression Analysis 2008). WidgeCorp's entry to the cold beverage sector should further be assessed by looking at the attractiveness of the market and the potential that it has in serving the customers. The company's decision of coming up with a forecast of its monthly sales will be beneficial in decision of production levels. The monthly sales can be forecasted by using monthly sales as the dependent variable. In the regression equation, independent variables should include the amount investment in advertising, season, and time. The amount investment in advertising is important because as a new player WidgeCorp is only able to create and enhance customer awareness through the use of promotional activities. Season is also important since the sales of cold beverages usually peak at summer while decline during winter. Time is important especially for a new player. Being new in the market, WidgeCorp is expected to have low sales in its introduction stage which is expected to increase as it is able to develop awareness and a loyal clientele.

#### References

Curvefit. com 2008, Retrieved 28 September 2008, from <http://curvefit.com/>

Regression Analysis 2008, Six Sigma First, Retrieved 28 September 2008, from <http://www.sixsigmafirst.com/regression.htm>