



## What Determines Consumers' Willingness to Pay for Organic Food? A Multilayer Perceptron Neural Analysis

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### Keywords

consumer behavior, data mining,  
Digos City, multilayer perceptron  
neural analysis, organic food,  
willingness to pay

### Abstract

This study intends to predict the amount the consumers are willing to pay for organic food and to identify the relative importance of the factors influential in consuming organic food. Such intention is possible with a data mining technique called multilayer perceptron network analysis, which can be used as an arbitrary function approximation mechanism that “learns” from observed data. The approach was used instead of a regression procedure since neural networks can identify the particular attributes, and their relative importance, that significantly contribute to observed willingness to pay (WTP). In this study, a household survey involving 400 random households in Digos City, Philippines, was conducted. To determine the weights of the factors, maximum likelihood estimation was utilized to estimate the actual values of WTP. Results of the estimations revealed that the observed WTP for organic food was PhP114.21 on the average. Three perceptron network models were produced and assessed for goodness of fit. WTP for these perceptron network models were PhP114.08, PhP107.94, and PhP117.96, respectively. In the final model derived, income accounts the highest relative importance (100%) among the factors, followed by years in school (52.8%) and motivation to consume organic food (28.8%). It is recommended that producers, suppliers, and retailers consider the estimations to develop pricing and promotional strategies in the context of the manufacture and distribution of organic foodstuff. They may opt to price organic food products within the PhP107.94 to PhP117.96 bracket.