



Chapter V

A Closer Look at Marketing/ Advertising, Promotions and Pricing Policies Using Econometric Based Modeling

Two core business strategies throughout the realm of commerce, which take their root from traditional economic theory, involve the incorporation of marketing, advertising and pricing policies for corresponding products and services. The determination of optimal strategies for each of these concepts is crucial since they account for the success or failure for a particular product or products and potentially the well being of the organization. As you well know, even the best product or service that has been mismarketed or inappropriately priced has little chance to achieve success in the market place. This is illustrated by the recent success of Ford Motor Company and their implementation of smart pricing.

While most companies have gotten savvy about cutting costs, few have figured out how much money they are giving up by using lunkheaded pricing strategies. Lacking detailed information about market demand and their own supply capabilities, companies routinely overprice some products and underprice others. The new strategy of smart pricing draws on microeconomics, buyer psychology, and the computing power to sift through lots of data on spending patterns.¹

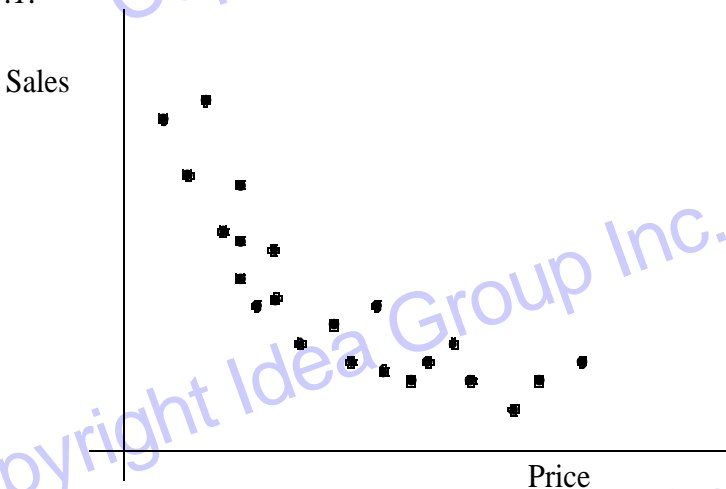
The following section illustrates how regression and neural network methodologies can be used to identify optimal advertising and pricing strategies. This process can also be termed as “econometric modeling” (briefly addressed in Chapter 2) because of the more direct connection between economic theory, business strategy and statistical/quantitative analytics which verify cause and effect relationships between variables. The following chapter therefore incorporates a high-level analysis to more adequately address these crucial aspects of business strategy.

REGRESSION/NEURAL NETWORKS FOR MARKETING ANALYSIS

Basics to Mining Methodologies

Regression is the practice of attempting to fit a close fitting line or curve to data. Take, for example, the monthly sales of a hypothetical product. Suppose a scatter chart were plotted (Figure 5.1) with sales on the y axis and price on the x axis, and each monthly record being plotted as a dot:

Figure 5.1.



The eye can see a relationship here. Linear regression is a simple mathematical algorithm for expressing that pattern as a straight line through the data:

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