Estimation of Service Quality and Its Impact on Market Share Using Business Analytics

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Abstract : Service quality has become an important driver of competition in manufacturing industries of late, as many products are being sold in conjunction with service offerings. With increase in computational power and data capture capabilities, it has become possible to analyze and estimate various aspects of service quality at the granular level and determine their impact on business performance. In the current study context, dealer level, model-wise warranty data from one of the top two-wheeler manufacturers in India is used to estimate service quality of individual dealers and its impact on warranty related costs and sales performance. We collected primary data on warranty costs, number of complaints, monthly sales, type of quality upgrades, etc. from the two-wheeler automaker. In addition, we gathered secondary data on various regions in India, such as petrol and diesel prices, geographic and climatic conditions of various regions where the dealers are located, to control for customer usage patterns. We analyze this primary and secondary data with the help of a variety of analytics tools such as Auto-Regressive Integrated Moving Average (ARIMA), Seasonal ARIMA and ARIMAX. Study results, after controlling for a variety of factors, such as size, age, region of the dealership, and customer usage pattern, show that service quality does influence sales of the products in a significant manner. A more nuanced analysis reveals the dynamics between product quality and service quality, and how their interaction affects sales performance in the Indian two-wheeler industry context. We also provide various managerial insights using descriptive analytics and build a model that can provide sales projections using a variety of forecasting techniques.