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Enhancing New Product Predictions Through AI and Advanced Analytics

Forecasting new products, particularly those lacking historical data, poses significant challenges due to the uncertainty surrounding their market performance. Various methodologies, such as analogous forecasting (historical analogy), simulation modeling (e.g., Monte Carlo simulation), and adoption curve analysis (e.g., Bass Diffusion Model), are commonly used to estimate demand and market potential. However, these traditional methods are often constrained by the absence of historical data.

Advancements in artificial intelligence (AI) and machine learning (ML) offer powerful alternatives. By leveraging large datasets, sophisticated algorithms, and predictive models, AI can identify patterns, trends, and hidden factors that traditional approaches might overlook. These capabilities enable decision-makers to forecast new product sales and market performance with greater accuracy. Combining machine learning, deep learning, and simulation models, AI provides actionable insights into demand, pricing, and customer behavior—ultimately reducing risks and increasing the likelihood of a successful product launch.

In this talk, we will explore AI-driven approaches to improving the accuracy of new product predictions, focusing on recent advancements in machine learning. For instance, supervised learning techniques use historical data from similar products to train predictive models, such as regression and decision trees, to estimate demand and sales. Advanced methods, including Random Forests and Gradient Boosting, excel at handling complex datasets, incorporating features such as seasonality and customer preferences to enhance prediction accuracy.