Synopsis on

**Predicting Sales and improving profitability of retail chain**

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**Synopsis**

The capstone project deals with analysis of retail transaction data of a retail chain located at five states of the United States of America, that includes the sales, promotion information for multiple products and brands with different categories for the past 156 weeks. The key challenge is to derive decision that would enable the retail chain to identify the customer preferences out from the high volume of data.

The objective of the study to predict the sales for the future, address the relation between price and discount, price thresholds and price elasticity of the products. Also, estimate the impact on sales by changing the price gaps between items, promotions, displays and feature. Also, address price cushion on increase in margin to retailer that would increase the sales. At the end, considerable effort should be spent to identify the products that would enhance the sales and margin to the retailer.

The capstone would address the problem with

* Data clean-up (identifying outliers and ways to treat them)
* Exploratory data analysis (identifying key factors)
* Forecasting the sales by time series analysis model (week wise)
* Develop models that enable to take the decision based on key retailer, by product and by category wise
* Measurable insights to the retail chain by identifying the profitable promotional mechanism
* Classify the store based on relevant factors
* Collective decision based on study that would enable retail chain to improve their profitability