



# Data Analytics

**Make the most of your dollars and cents.**



Using a variety of data modeling techniques and the power of advanced analytics, KPMG helped our federal client develop a process for more accurate material price calculations and more effective procurement actions. The end result was the implementation of a process that allows accurate budget forecasting and saves our client millions of dollars annually in procurements.

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## Challenge

The Client's legacy Standard Price program estimates the standard price (procurement cost) of materials to be purchased by taking the average of the award prices from 365-day of historical transactions without taking multi-dimensional drivers into account.

This resulted in inaccurate budget forecasting and, subsequently, overspending. The KPMG team sought to enhance the current standard price program by using more advanced analytics modeling approach to setting standard price.

The KPMG team worked with our Federal client to understand the problem, compile and cleanse the necessary data from disparate sources using leading practice ETL methodologies, and analyze the data.

After initial analysis of the data, the materials were divided into three categories. Two test cases were specifically designed to evaluate the predictive capability of the model. The first test case optimized the model performance while the second test case attempted to simulate the operational environment.

Several different modeling approaches were blended together to develop the final Standard Pricing Model. A Cluster-Regress-Cluster Model, Contract-Centric model, Contracted Material Regression Tree, and material clustering model were combined through the course of the project.

The KPMG team leveraged the insights of leading data scientists on staff to develop this algorithm and the latest tools and technologies including SAP HANA, Alteryx, and Tableau to develop, test, and apply the new hybrid model.



## Approach



## Outcome

The KPMG model proved to be a more accurate predictor of actual expenditure than the legacy model. In all, the client over-budgeted by nearly \$3 Billion in the first evaluation period and \$500 Million in the second.

Application of the KPMG model also helped the client to identify the over 100 Million dollars in overspend which, coupled with new business rules, resulted in huge savings.

## Contact information



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