**ABSTRACT**

The objectives of this project are two-fold: 1) to use statistical modeling techniques to help a Fortune 500 paper and packaging company codify what drives sales success and 2) to develop a model that can predict sales success with a reasonable degree of accuracy. The desired long-run result is to enable the company to improve both top-line revenue and bottom-line profits by increasing sales close rates, shortening sales cycles, and decreasing the cost of sales. The research team generated several models to predict win propensities for individual sales opportunities, choosing the model with the greatest predictive power and ability to generate insights to use as the backbone for a client tool. To accomplish this, the team leveraged structured and unstructured data from the company's Salesforce.com customer relationship management system. The team experimented with several techniques including binomial logit and various decision tree methods, including boosting with gradient boost and random forest. Individual attributes of customers, opportunities, and internal documentation methods that have the greatest influence on sales success were identified. The best model predicted win propensity with an accuracy of 80%, with precision and recall of 86% and 77%, respectively, which proved to be an improvement over current sales forecast accuracy