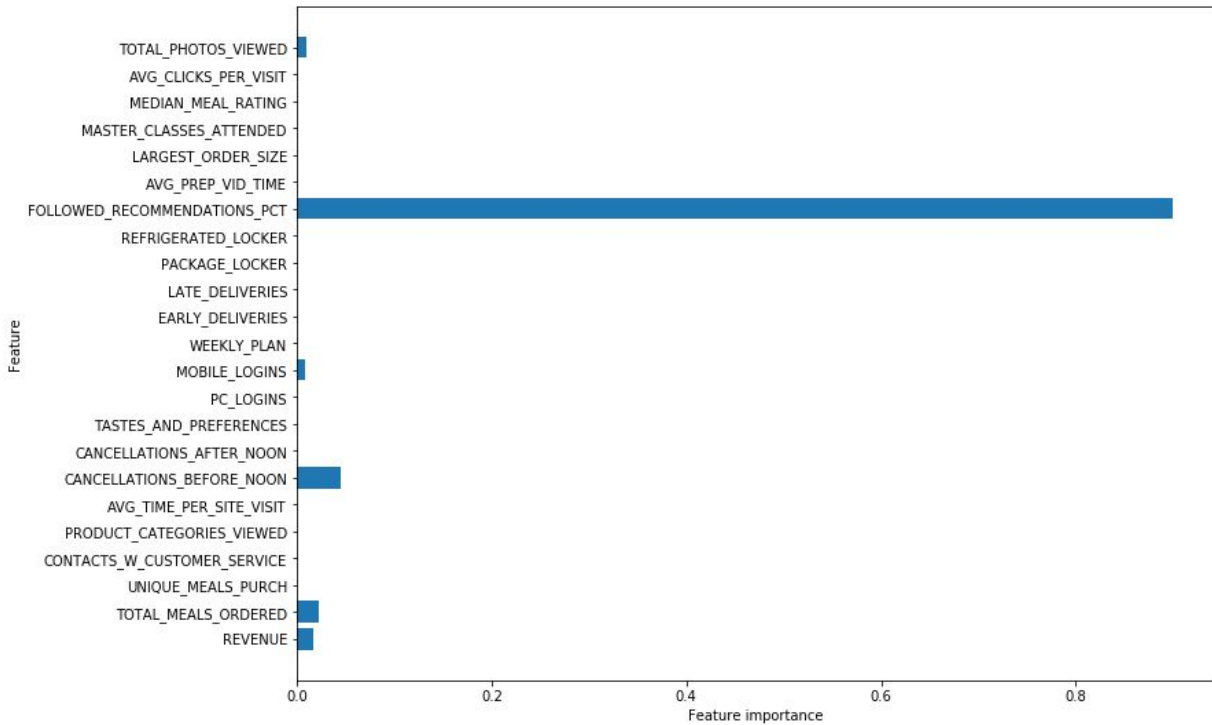


## Assignment 2 Analysis Write Up

By Michael Abramson



### Insight 1:

Both my correlation matrix and feature importance plot reveal that the most important determinant of whether or not a customer will subscribe to our *Halfway There* program is how often they follow our meal recommendations that we automatically generate and display for our customers. This is likely because if customers trust our recommendations in meals, they would also trust our recommendation with wines because our recommendations already have established credibility with that customer.

CROSS_SELL_SUCCESS	1.00
FOLLOWED_RECOMMENDATIONS_PCT	0.46
CANCELLATIONS_BEFORE_NOON	0.16
TASTES_AND_PREFERENCES	0.08
REFRIGERATED_LOCKER	0.07
MASTER_CLASSES_ATTENDED	0.04
PACKAGE_LOCKER	0.04
CONTACTS_W_CUSTOMER_SERVICE	0.04
PC_LOGINS	0.04
MEDIAN_MEAL_RATING	0.03
AVG_PREP_VID_TIME	0.03
LARGEST_ORDER_SIZE	0.02
EARLY_DELIVERIES	0.02
TOTAL_PHOTOS_VIEWED	0.01
LATE_DELIVERIES	0.01
TOTAL_MEALS_ORDERED	0.01
AVG_TIME_PER_SITE_VISIT	0.01
UNIQUE_MEALS_PURCH	0.00
REVENUE	0.00
PRODUCT_CATEGORIES_VIEWED	0.00
WEEKLY_PLAN	-0.01
AVG_CLICKS_PER_VISIT	-0.04
CANCELLATIONS_AFTER_NOON	-0.05
MOBILE_LOGINS	-0.05

Name: CROSS\_SELL\_SUCCESS, dtype: float64

## Insight 2:

My correlation matrix and feature importance plot also reveal that cancellations before noon is the second most important determinant of cross sell success. This is harder to interpret. Customers who are more likely to cancel orders likely are indecisive or do not like to commit to their purchases. It is intuitive that this group of people would not be likely to subscribe to our *Halfway There* program because this program requires commitment on a weekly basis without the ability to cancel individual orders(as this program was excluded from the cancellation policy in the pdf).

## Recommendation:

I recommend that Apprentice Chef, Inc. alter their *Halfway There* program by adding the option for customers to select a half bottle of wine for their *Halfway There* subscription each week. To be clear, the default setting will be to trust our weekly recommendation. I believe this will be effective because the percentage of meal recommendations followed is the primary determinant of cross sell success for this new program. I believe we could bring in the most subscribers to this service by addressing customers who don't follow our recommendations as frequently rather than by addressing issues uncovered by less significant variables in our dataset. This alteration will allow us to better target customers who do not have as much faith in our

recommendations. With future data, we can determine if this strategy was effective by comparing the correlation of percentage of recommendations followed with cross sell success and the feature importance of percentage of recommendations followed with the results from the data from this last year. Based on external research about top wine subscription services such as Winc and California Wine Club, the option to select which specific wines to receive should also distinguish us from other subscription wine services.

**My final AUC is 0.834.**

## References

*Winc Wine Club Membership and Gifts*, 2020, [www.winc.com/](http://www.winc.com/).

*The California Wine Club*, 2020, [www.cawineclub.com/](http://www.cawineclub.com/).

Bryan, Adam. "22 Best Wine Subscription Boxes and Clubs (2020)." *Urban Tastebud*, 4 Mar. 2020, [urbantastebud.com/best-wine-subscription-boxes/](http://urbantastebud.com/best-wine-subscription-boxes/).