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Machine Learning - DAT-5303 - FMSBA2

This paper's objective is to provide valuable insights and far-reaching recommendations interpreted from our case study "Apprentice Chef, Inc.", moreover, they are well supported by external studies.

My final model is **Ordinary Least Square (Linear Least square)** because it could balance the trade-off between variance and bias; my final model will be consistent.
The final model's highest R-Square value is **0.903 for training and 0.902 for testing**. In other words, Correct prediction is 90,2% of the holdout data, 25% of the dataset.

First of all, the in-depth analysis indicates a strong increasing trend from attendance at master class and revenue. However, the trend seems downward after our users attended more than two classes. Our final model features a remarkable positive correlation: 62.7260. The effectiveness of our marketing activity: Master Class for consumers is considered as *"Customer Education"* (Okeke, 2020), which is a constant process aiming to equip our customers with knowledge and skill to gain the greatest advantage of our products. Although it totally fits with the value proposition of Apprentice Chef's, the negative impact is unavoidable. If our users gain enough knowledge and experience, they achieve independence from our services.

The second insight relates to two variables which are Unique Meal Purchase and Spending based on categories. Our customers tend to focus on particular meals, the revenue decreases as unique meal increases. A possible explanation is the learning curve, users will be more fluent in cooking a specific meal and their quality also improves. However, a part of our potential customers mostly focus on only one meal, the amount of expenditure is up to $8,800 for a single meal. It implies an opportunity that we could diversify customers' orders and provide more "unique" values to them.

Let us now consider an actionable recommendation, which improves *UNIQUE MEAL PURCHASE,* it directly improves $48.9631 of Revenue for each meal unit. Furthermore, the scatterplot of the explanatory variable and the response indicates that an increasing variety of meals purchased (more than 10) could lift the revenue upward. With the aim of increasing the unique meal purchased, a possible solution is educating customers: *Master Class* variable. My recommendation is to offer free first two masterclasses, it helps our customers gaining more

knowledge about cooking and using the app. At the same time, it builds customer trust, customers are more likely to trust brands that devote effort to share understandings and enhance their knowledge; additionally, the class is a tool to reduce complaints. (Pine, Peppers and Rogers, 2020) At the same, innovative technology could be applied; the optimal one is Augmented Reality instruction. The technology could transform our customer journey; we provide instructions to the user in a real-time & interactive manner.

References

Okeke, K. (2020). [online] Available at: http://www.cxservice360.com/2017/11/29/educating-customers-benefits-achieve/ [Accessed 27 Jan. 2020].

Pine, B., Peppers, D. and Rogers, M. (2020). *Do You Want to Keep Your Customers Forever?*. [online] Harvard Business Review. Available at: https://hbr.org/1995/03/do-you-want-to-keep-your-customers-forever [Accessed 27 Jan. 2020].