Business Analysis Report for Apprentice Chef Case Study 1

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Background:

Apprentice Chef is an innovative company offering a wide range of daily-prepared meals to busy working professionals who are eager for healthy lifestyle with gourmet foods but lack time or skills to cook. The registered users could order from its online platform or mobile app to get delivery to door. Provided preparation video, they just need do a little home-cooking which they are most likely to enjoy before having meals, and easily clean up afterwards.

The price range of meals set is from $10 to $23, with a limited selection of beverage from $1 (still water) to $25 (wine). Those who subscribe to weekly plan could get 10-20% discount.

The management teams at Apprentice Chef would like to better understand consumers needs and forecast how much revenue to expect from new customers based on current consumers' profile and purchasing behavior.

Data Preparation:

A data set of approx. 2000 customers who purchase at least one per months for their first 11 months, or at least one per quarter but total 15 times throughout their first year.

Apprentice_Chef_Dataset.xlsx

Apprentice_Chef_Data_Dictionary.xlsx

Methodology:

- Conducting the external research to gain domain knowledge
- Exploratory data analysis and trend anomaly detection
- Performing Pearson correlation and testing statistical significance
- Regression modeling is appropriate forecasting technique in this case
- Insight formulation and business recommendation

Business Insight 1:

My first finding is that the factor of average time customers view preparation video is highly associated with revenue. Those watching meal preparation video longer are more likely to spend more than those checking more photo online. It's also possible that bigger spenders need review more video to cook meal. Whatever the scenario is, video design and making could be one area to focus on, either to motivate consumers order more delivery or to enhance customers satisfaction after receiving orders. Both could lead to revenue growth. Apprentice Chef could make video emphasizing health foods, a lot fun of cooking and easy handling, in line with today's consumers lifestyle. However, the video play time should be short, since 98.3% consumers averagely watch prep video no more than 300 seconds (Appendix I), and those play video longer than that have no tendency to contribute more to revenue but less.

Business Insight 2

Second, master class attendance has sizeable positive impact on revenue generation. Those attend at least one master class spend average 65% more than those are never in master class. However, only 0.3% consumers attend third class (Appendix I), one plausible explanation of which could be that even though the working professionals are interest in cooking class, they barely have time to continue. They alternatively could turn to view free video online for specific food after having general idea of cooking. In such circumstance, Apprentice Chef could arrange master class as a social community program for customers to gather, expand network there, communicate idea, and learn new method of cooking. The consumers might more engage in social activities beyond merely cooking. It's also good opportunity for the company to interact with customers to understand their needs better.

Business Insight 3

Third, the other factor median meal rating rate shows not only strong correlation to revenue, but also medium association with other factors such as total meal ordered and large order size. The customers who give median rate 3 or 4 contribute 86% revenue. Since some users give feedback and rating on almost every order, while others only do when wanting to complain, I could assume that customers are more satisfied than what the median rating reflects. It makes perfect sense that customers who are happy on products and service will place larger and more orders, and thus might need to review more cooking video. Indeed, there are several places to look at to further customers satisfaction, for example, improving website/app interface to reduce time for customer to place order ; tracing food source and assuring quality; decreasing delivery lead time which might be challenge in US; addressing customers complains promptly after-sales.
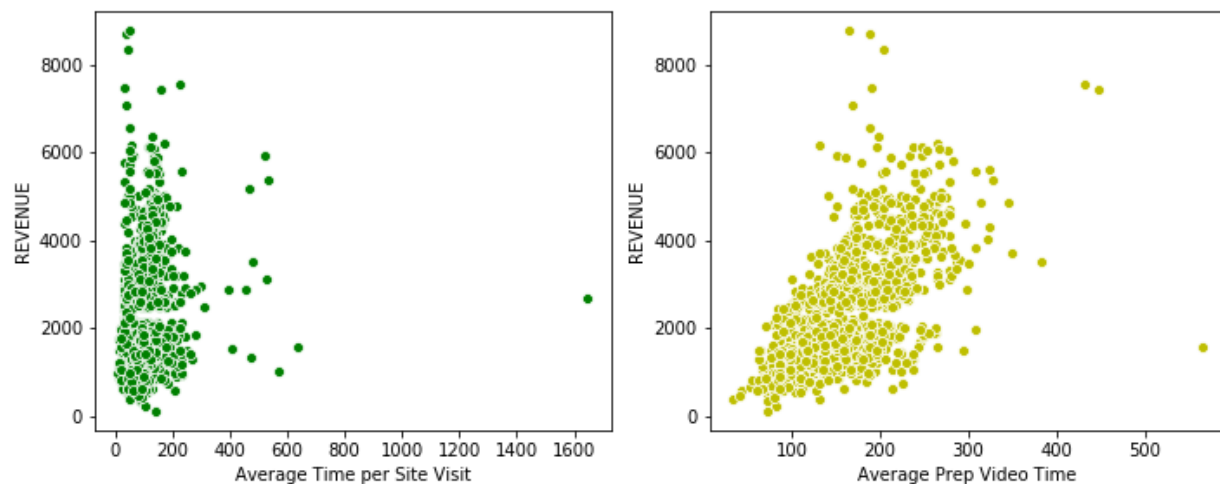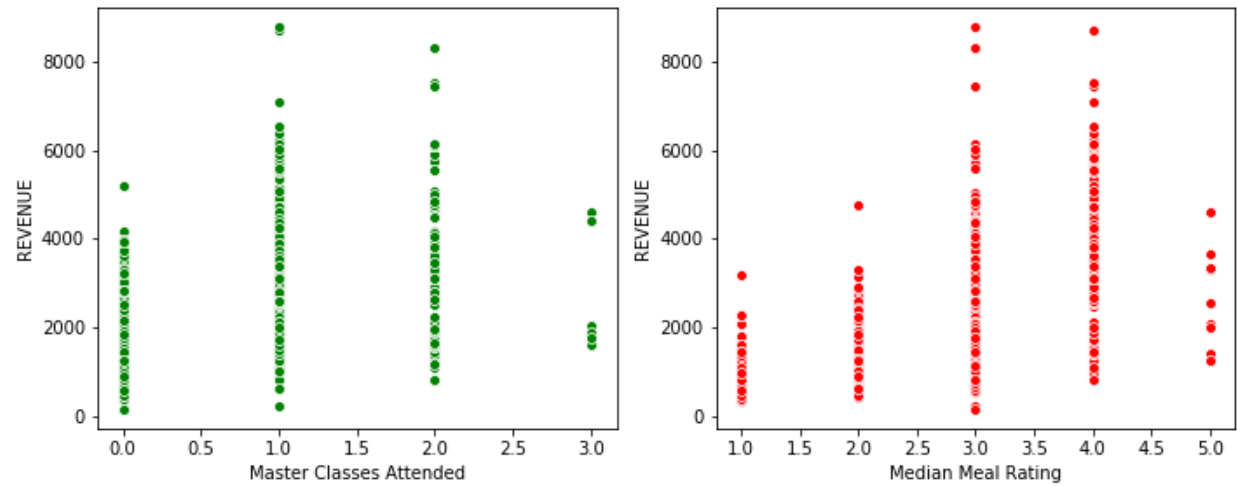
Business Insight 4

Moreover, one thing hardly to be ignored is that revenue augment substantially when consumers order beverage besides meals. Statistically, consumers who order additional beverage contribute $978 more than those only order meals as manual estimated here. If more detail data about beverage were provided, much clearer picture would be visualized to reconstruct the strategy of complement product. Apprentice Chef could expand the range of beverage to cater for working professionals' penchant for convenience and taste, for instance, offering juice bottle, tea bag, coffee along meal delivery as well. Furthermore, the company could pair meal with beverage to promote combo offer in preparation video, and even personalize to customers by recommendation engine based on their previous buying behavior, lookalike scores, etc.

Summary

In summary, Apprentice Chef could expect average revenue $2107 from each customer of first year. Their customers incline not to spend much time on cooking, but still reveal passion about food and cooking, as well as ensuring eating health. They are generally not sensitive to price, inferred from average order size and limited effect of weekly plan. Increase in customer engagement via cooking video, master class, feedback, recommendation system could facilitate to establish emotional connection with brand loyalty and finally result in revenue boost.

Appendix I

Appendix II