



Case Analysis:
“APPRENTIC CHEF INC”

MSBA 5: Machine Learning

Professor: Chase Kusterer

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STUDENT:

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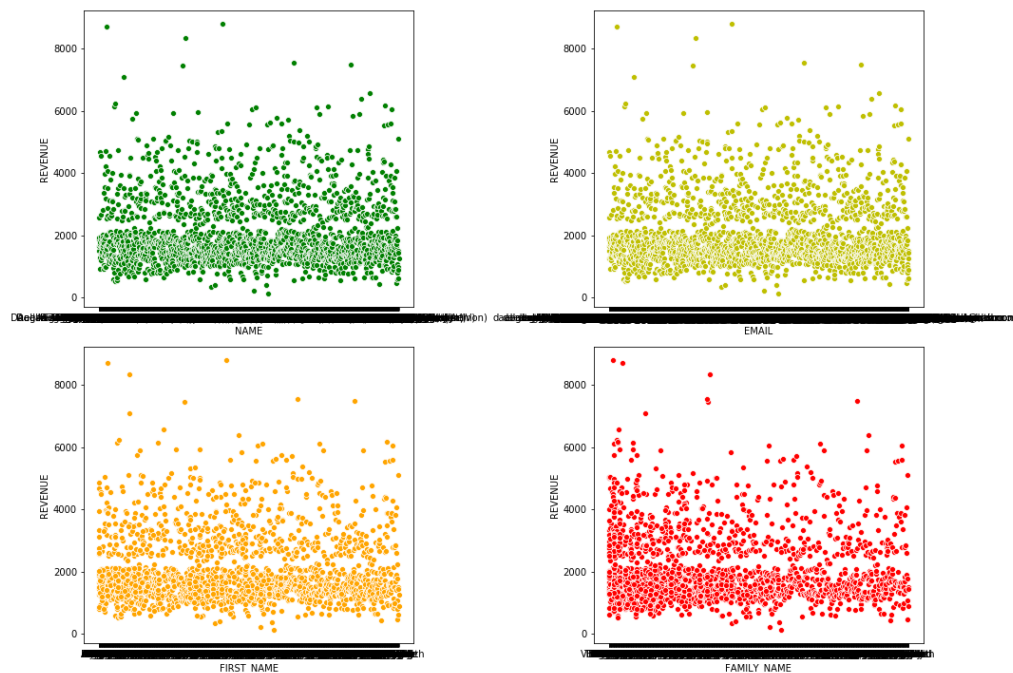
GitHub: <https://github.com/SunlongNgouv>

Summary Report

Among all insights, there are two outstanding, as below:

Insight 1: [1.2.0.1 FINDING]

The customer's expenses fell into three groups: Low, Middle, and High. From the scatterplot of categorical data below, among 1933 customers totally, there were 63% of the total customers spent less than \$2000 per year on our meals, 34% of the total customers spent between \$2001 to \$5000, and only 3% of the total customers spent more than \$5000.



Insight 2: [1.1.2.1 and 1.1.2.2 FINDING]

From the same data source, by analyzed all registered family names, there are four main groups, such as Frey (79), Stark (32), Lannister (29), Tyrell (28). According to the Google, we found those family names originated from Germany, England and France, which contributed 47% of correlation to the revenue stream.

In addition, among the “Frey” group, there were at least two customers having registered with multiple fake counts to enjoy the company’s promotions on new purchase.

Example: Person 1: Alyn,Alys,Alyx and person 2: Sarra, Serra

21 Alyn Frey alyn.frey@msn.com Alyn Frey

208 Alys Frey alys.frey@unitedhealth.com Alys Frey

1455 Alyx Frey alyx.frey@aol.com Alyx Frey

1228 Sarra Frey sarra.frey@chevron.com Sarra Frey

1933 Serra Frey serra.frey@msn.com Serra Frey

Actionable Recommendation 1:

The **Apprentic Chef Inc** has been suffering from low customer retention rate. The company's revenue mainly is from customers with less than 12-month subscription. To increase their retention rate, following the "insight 1" above, the company should align its marketing strategies to increase customer purchase power by introducing new promotional meal sets, new drink menu (like fresh fruit juice or shake), happy hours, and free shipping with expense above \$50 per ticket price, or \$100 for bundle purchase per time.

Linear Regression - R-Squared: 0.60

Prediction Score:

Model	Train Score	Test Score
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OLS	0.769	0.737
KNN	0.6494	0.5798
GB	0.915	0.853

APPENDIX**1.1.2.1 FINDING****FAMILY_NAME (COUNTS)**

Frey (79)

NA (47)

Stark (32)

Lannister (29)

Tyrell (28)

Based on Google:

Frey - original from Germany for middle and high class people.

Stark - original from England.

Lannister - original from England and Germany.

Tyrell – original from France

Business Insight: Targeting customer groups from Germany, England and France with special promotions.**1.1.2.2 FINDING**

1. There may be at least two customers in 'Frey' group creating fake counts to gain promotions benefits from our company

Example: Person 1: Alyn,Alys,Alyx and person 2: Sarra, Serra

21 Alyn Frey alyn.frey@msn.com Alyn Frey208 Alys Frey alys.frey@unitedhealth.com Alys Frey1455 Alyx Frey alyx.frey@aol.com Alyx Frey1228 Sarra Frey sarra.frey@chevron.com Sarra Frey1933 Serra Frey serra.frey@msn.com Serra Frey**1.2.0.1 FINDING**

1. Total customer amount is 1,933.
2. 63% of the total customers spent less than 2000.
3. 34% of the total customers spent Between 2001 to 5000.
4. 3% of the total customers spent more than 5000.

Business Insights: We should allocate new products for lower expense group to try to increase their expenses, and new drink menu for middle expense group to boost their expenses.**SIZES IN EACH REVENUE GROUPS:**

Below 2000

(1229, 32)

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Between 2001 to 5000

(655, 32)

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Above 5000

(49, 32)