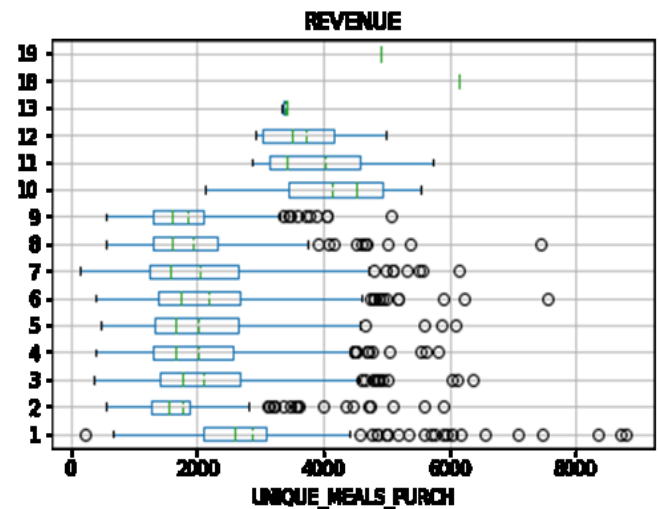


Data Analysis: Insights and recommendations

UNIQUE MEALS PURCHASED

Value counts:	
3	338
4	260
6	226
5	214
7	205
8	179
1	173
2	170
9	162
10	7
12	4
13	3
11	3
19	1
18	1

Name: UNIQUE MEALS PURCH, dtype: int64



Insight

As we can see from the boxplot, higher numbers of unique meals past the threshold of 9 unique meals have higher median revenue! However, through value counts we can also see that there are far fewer unique meals bought over 9 then for instance 9 itself as all of these are in the single digits. There is an opportunity to move customers into double digit unique meals purchased to increase revenue.

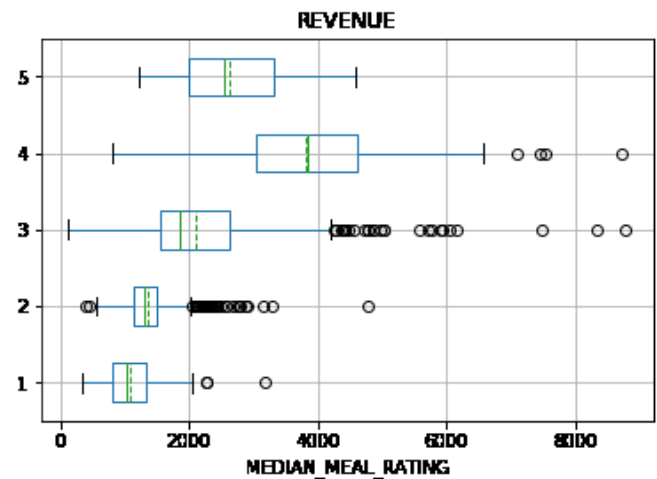
Actionable recommendation

Mealkit companies have tight profit margins (Thakker, 2020), yet there is a need for greater diversity in products as growth and diversification is needed for profitability (Kolodny, 2020). HelloFresh stated they would increase product range and give their customers more choice two years ago in their Annual Report (HelloFresh, 2018). To this day, experts still agree on diversification of product range to realize growth potential (Kolodny, 2020). HelloFresh has even partnered up with Quaker Oats taking further action in this direction which indicates the continued importance of a wider product range.

Data analysis shows clear potential for selling higher amounts (>9) of unique meals for Apprentice Chef. An expansion of available products can enable those customers that are currently buying 9 unique meals to buy more and therefore move over a threshold that is synonymous for higher revenue. There are currently 162 counts of 9 unique purchased meals while there are only 7 counts of 10 unique purchased meals this deficit highlights a missed opportunity which the company can address by expanding the product range.

MEDIAN MEAL RATING

```
Value counts:  
3    1087  
2     487  
4     260  
1      99  
5       13  
Name: MEDIAN MEAL RATING, dtype: int64
```

Insight

From the boxplot it becomes obvious that median meal ratings of four have a high contribution potential to revenue as their median is higher. From value counts we can clearly see that there are far fewer cases of ratings with '4' than for instance '3' which has a 1087 counts. Furthermore, the boxplot indicates rating 3 already has outliers that are willing to pay higher amounts. The company should make an effort raise food quality to enable better ratings. Research supports this as customers are more likely to purchase products with 4 star ratings (PowerReviews | Northwestern University, 2020).

Final R-square value

The final model reached an R-square value of 0.809 using a K-nearest neighbor model.

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Thakker, K. (2020). Meal kit subscriptions grew 67% over the past year: report. Retrieved 7 March 2020, from <https://www.grocerydive.com/news/meal-kit-subscriptions-grew-67-over-the-past-year-report/539665/>

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