

Food Delivery – Who’s Using it the Most?

By Logan Marley

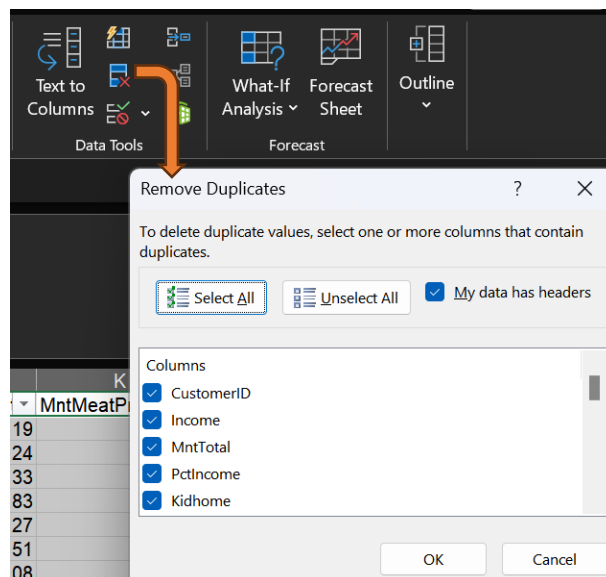
Last Saturday, I spent most of the day working in the yard on a brutally humid and hot Oklahoma day and my partner asked me what I was going to cook for dinner. I love cooking in normal circumstances but on this day, cooking dinner sounded like the last thing I wanted to do. I pushed for a DoorDash order of wings and fries (one of my favorites). Luckily, my partner agreed, and we placed our order and had a delicious meal in less than one hour delivered straight to our door. As an avid user of DoorDash in my personal life, I was curious to know the spending trends of its customers, the performance of marketing campaigns, and what age group is spending the most on the service and how DoorDash could take some of this analysis to boost their marketing efforts in the future.

Through my analysis using Excel I was able to come away with the following key conclusions:

- There is a significant positive correlation between customer income and the amount spent on the platform. In general, the higher the income the higher the spend on this service.
- Three of six marketing campaigns were more accepted by customers with 1 and 2 dependents at home. Elements of these campaigns could drive growth among this client base.
- The 66+ age group had the highest average spend of the following age groups: 24-35, 36-50, 51-65, and 66+

The dataset was provided through the Data Analytics Accelerator bootcamp. The dataset is an open-source repository for a Brazilian “equivalent” to DoorDash called iFood. The dataset can be found [here](#). The dataset was modified slightly for educational purposes. It contains 2021 unique customer profiles with data including income, total amount spent, category spend, marketing campaign acceptance, number of dependents at home, marital and education status.

Before doing any analysis, I wanted to clean the dataset. This dataset did not have any missing values for any of the columns or customers, but it did contain a significant number of duplicate rows, which were removed utilizing Excel’s built-in remove duplicates function.



Income-Based Spending

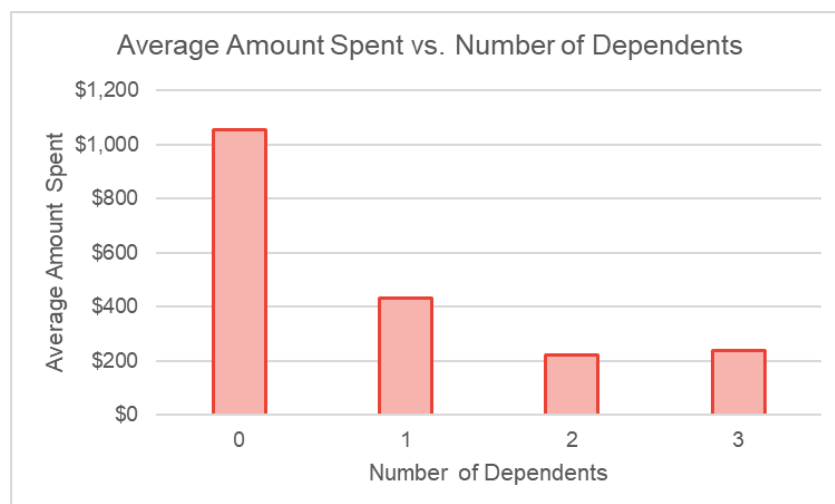
Upon removing the duplicate rows, I started the analysis by generating a scatterplot of total amount spent vs. income. To quantify the correlation between these two variables, I performed a linear regression using Excel's built-in trendline function. The main takeaway here is the more income you have, the more you are likely spending on DoorDash. The resulting R² value was ~0.67 indicating that there is a significant positive correlation between the two variables and 67% of the variance in the total amount spent by a customer can be explained by their income.



There are two predominate outliers with one suggesting they spent nearly ~70% of their income on purchases through the platform. A clarifying question I would ask the marketing team is if the income considers household income or only income of the respondent. If it is only of the respondent, it could be that there are other income sources in the household being used to splurge on DoorDash.

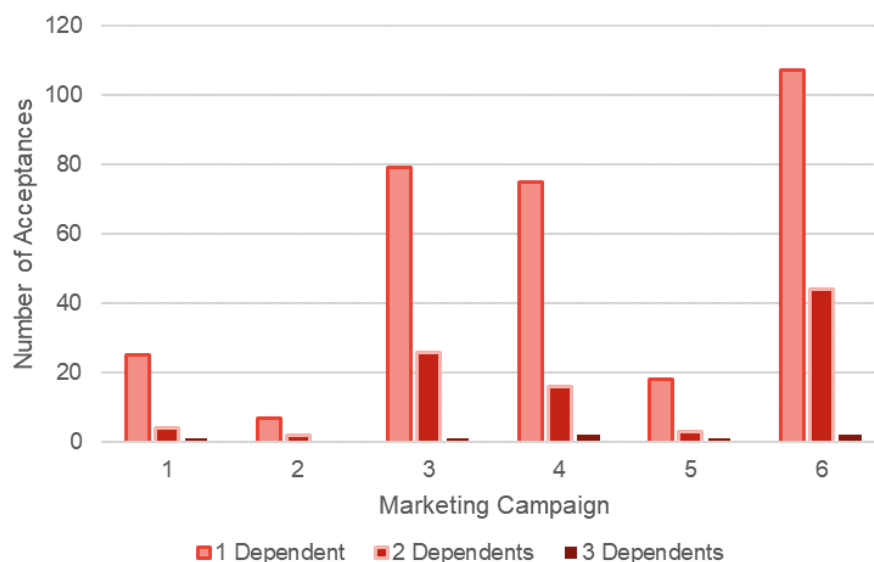
Marketing Campaign Performance

As mentioned previously, I was particularly interested in the success of the 6 marketing campaigns. I utilized PivotTables to take away some key insights into how they performed. In starting this analysis, one noticeable result from the analysis was the **sharp drop in spend by customers having dependents** – defined as having either a child, a teenager, or some combination of the two at home.



DoorDash brings that convenience factor but there are some downsides making it less appealing to those with kids at home. Generally, the more convenience a service provides, the more expensive it is (think TSA Pre-Check or a first-class plane ticket). Families with dependents at home may not have discretionary spending to splurge on eating meals out or ordering delivery. Eating out also brings the challenge of eating healthy or sticking to a specific diet. This may also deter families from using this platform. The marketing team may need to consider boosting offerings that provide affordable yet healthy options for families.

But what if some campaigns were more successful in converting customers with dependents into making a purchase? How could these campaigns be further developed or improved to boost the customers-with-dependents market? The below bar chart shows the count of customers that accepted a specific campaign. I have omitted the zero dependents category as there were significantly more customers with no dependents who accepted each campaign type – **DoorDash doesn't have a problem appealing to the zero-dependents group.**



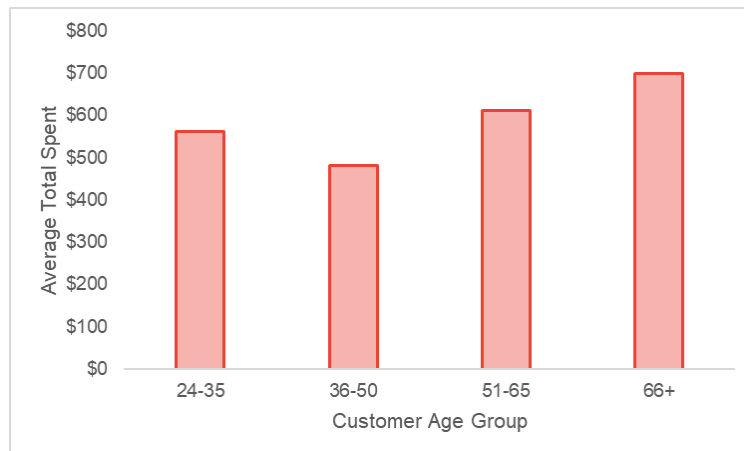
What stands out? **Campaigns 3, 4 and 6 were much more effective than the other three campaigns** in enticing customers with dependents to use DoorDash. It's also interesting to note that still, **households with 3 dependents were relatively unresponsive** to the campaigns across the board. Maybe they are too busy getting all their dependents to their after-school activities and still making time for themselves once they've cared for everyone at home to even pay attention to the campaigns that were sent out. They may also not have disposable income to spend on this service.

Trends by Age Group

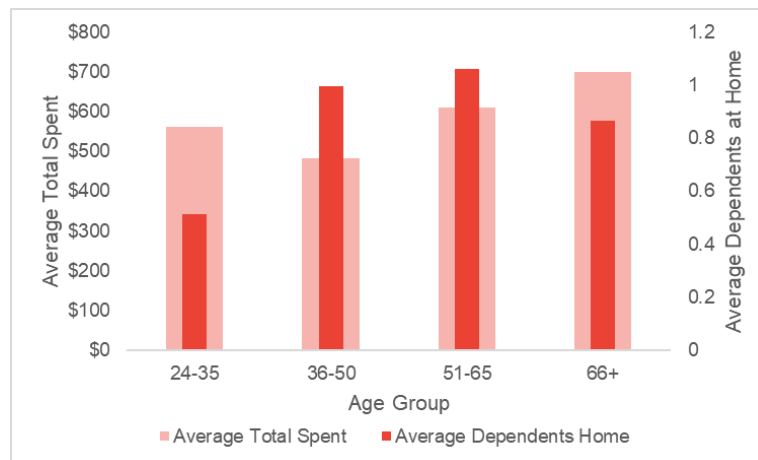
The final aspect of this dataset I explored was the trends of spending by age group. To do this, I used the IFS formula in excel to assign an age group to each customer where their age is in column AA. The following age groups were created: 24-35, 36-50, 51-65, 66+.

```
=IFS(AND(AA2>=24,AA2<36),"24-35",
AND(AA2>=36,AA2<51),"36-50",
AND(AA2>=51,AA2<66),"51-65",
AA2>=66,"66+")
```

Once this was completed, I used my PivotTable to look at the average total amount spent by age group and generated the following graph revealing the **highest spending group by average spend was the 66+ group**. Considering most people in this age group are likely retired and have higher discretionary funds than the younger age groups this makes sense. The **lowest spending group was the 36-50 age group**, which was surprising to me at first. I thought this could be due to this age group having the highest average number of dependents at home given that we know customers with more dependents at home are spending less in general.



To test that theory, I found the average dependents at home by age group using my PivotTable and overlayed that on the above graph to generate the visual below.



I was surprised to find the **51-65 age group had the highest number of dependents at home but were the second highest average spending age group**, suggesting this group may have more financial freedom. Of note, the makeup of the dependents for the 51-65 age group was an average of 0.32 kids and 0.74 teenagers. Compare this to the 36-50 age group with an average of 0.59 kids and 0.40 teenagers. As teens spend fewer meals at home, parents may be spending more on food delivery services. The 24-35 age group had the lowest average number of dependents at home and had higher spend than the 36-50 age group. As a member of the 24-35 age group myself and having no dependents I can confirm I spend quite a lot on DoorDash.

Main Takeaways

- There was a significant positive correlation between the amount spent on the platform and customer income. The marketing team should consider adding premium features for high income customers that further boost their spend on DoorDash.
- Three of the six marketing campaigns were notably successful in attracting customers that had 1-2 dependents at home, which may provide some future insight in how to grow spend for these consumer groups.
- The 66+ age group had the highest average spend on DoorDash. The marketing team might consider how to boost spending amount the younger age groups.

If you enjoyed reading this analysis, connect with me on LinkedIn to follow me as I continue growing my data analysis skills.