

Delicious Delights Report Using Business Analytics

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INFO-261: Introduction to Business Analytics

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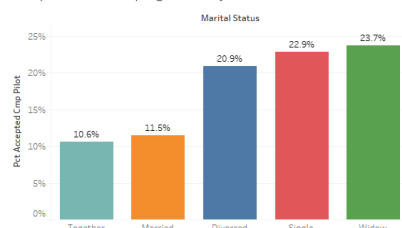
Introduction:

The purpose of this report is to gain meaningful insights from data and make recommendations so that your team, Delicious Delight Management, can run a successful and high return on investment (ROI) marketing campaign. To achieve this, I have analysed an extensive dataset related to customer and campaign interactions in Tableau and have created a dashboard to present this. I have also provided different perspectives on the status of the pilot campaign with visualisations, along with helpful explanations for each. I have then analysed the data from the dashboard to provide you with valuable insights and recommendations based off these findings. This is with the aim of optimizing the next marketing campaign and boosting profits for Delicious Delights.

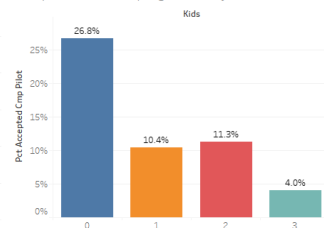
Dashboard Snapshots:

These are snapshots of my Tableau dashboard which consist of various visualisations that contain relevant information regarding the pilot campaign and general company data.

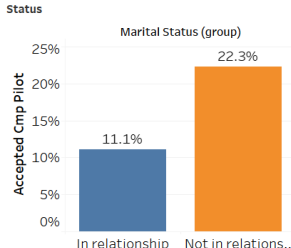
Acceptance of Campaign Pilot by Marital Status



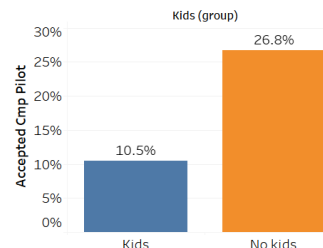
Acceptance of Campaign Pilot by Children



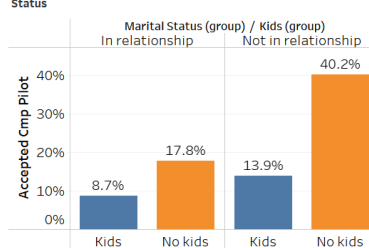
Acceptance Rate of Campaign Pilot by Relationship Status



Acceptance Rate of Campaign Pilot by Parental Status



Acceptance Rate of Campaign Pilot by Relationship and Parental Status



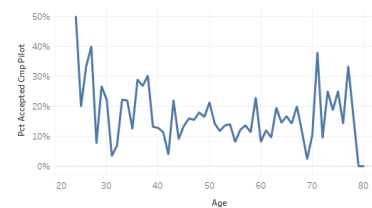
Acceptance of Campaign Pilot by Web Visits Per Month



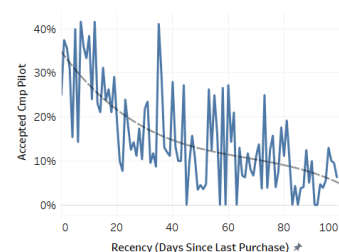
Acceptance of Campaign Pilot by Purchases



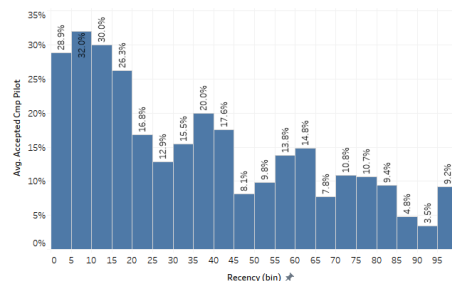
Acceptance of Campaign Pilot by Age



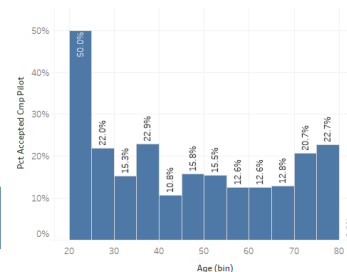
Acceptance Rate of Campaign Pilot by Recency of Purchase



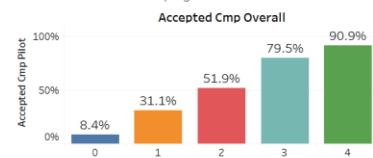
Acceptance Rate of Campaign Pilot by Recency of Purchase (bins)



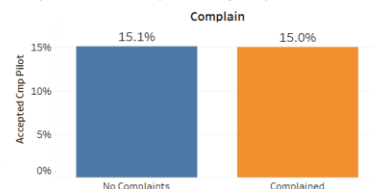
Acceptance of Campaign Pilot by Age (bins)



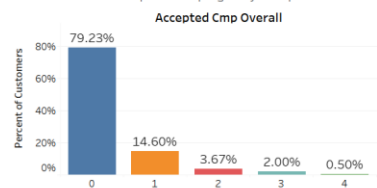
Acceptance Rate of Campaign Pilot by Total Accepted Number of Previous Campaigns



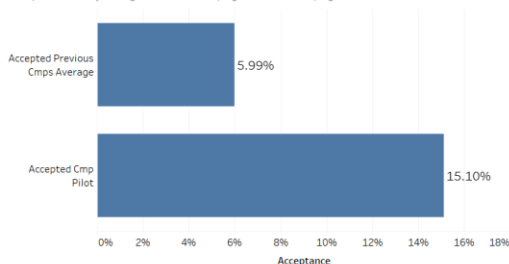
Acceptance Rate of Campaign Pilot by Complaint Status



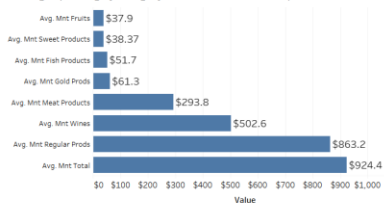
Total Number of Accepted Campaigns by Acceptance Rate



Acceptance Rate by Average of Previous Campaigns and Pilot Campaign



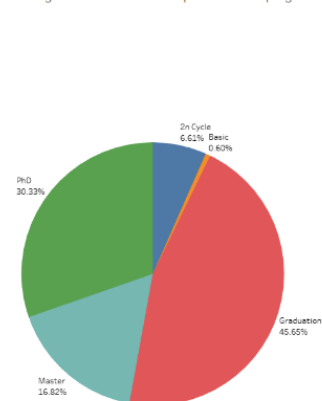
Average Spending by Category for Customers Who Accepted the Pilot



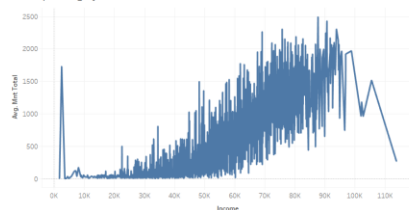
Average Spending by Category for All Customers



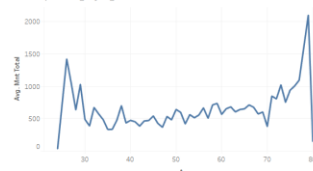
Distribution of Education Level among Customers who Accepted the Campaign Pilot



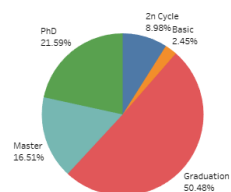
Total Spending by Income



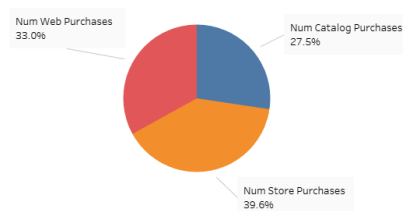
Total Spending by Age



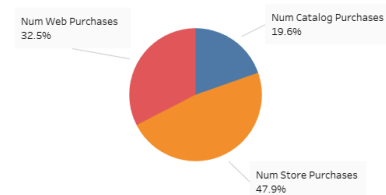
Distribution of Education Level among Customers



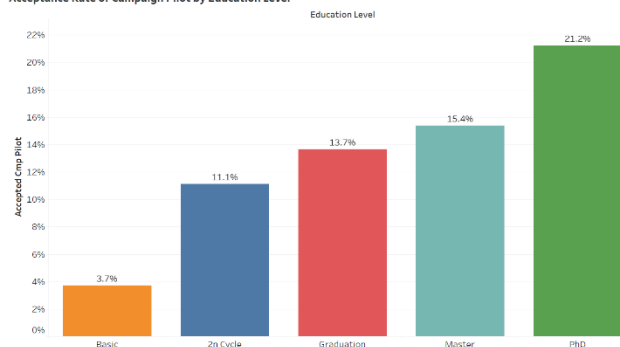
Total Purchases by purchase method for accepted campaign



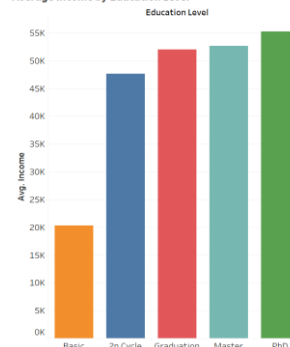
Total Purchases by purchase method for not accepted campaign



Acceptance Rate of Campaign Pilot by Education Level

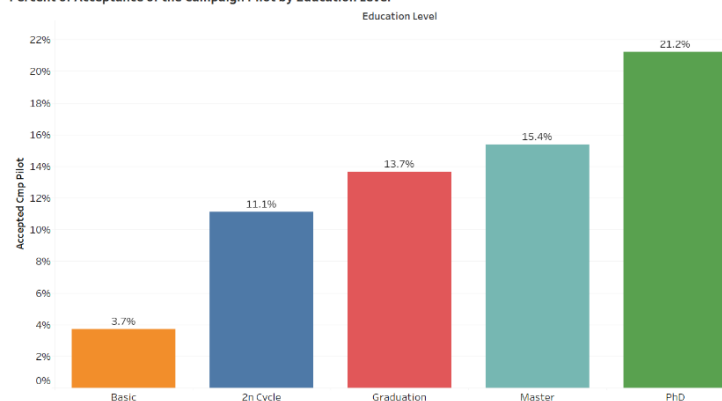


Average Income by Education Level



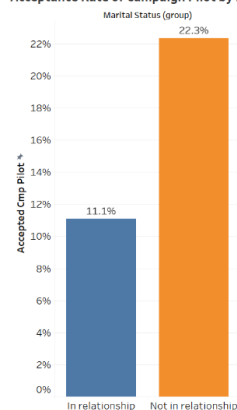
Pilot Campaign Visualisations:

Percent of Acceptance of the Campaign Pilot by Education Level



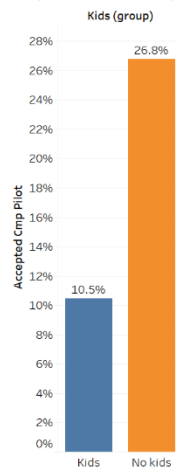
This bar chart shows the percentage of customers who accepted the pilot campaign offer by education level.

Acceptance Rate of Campaign Pilot by Relationship Status



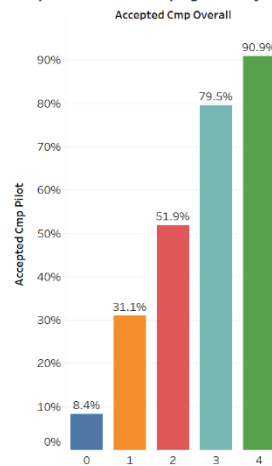
This bar chart shows the percentage of customers who accepted the pilot campaign offer by relationship status. The 'in relationship' group is made up of the marital status categories 'married' and 'together', while the 'not in relationship' group is made up of 'single', 'widow', and 'divorced.'

Acceptance Rate of Campaign Pilot by Parental Status



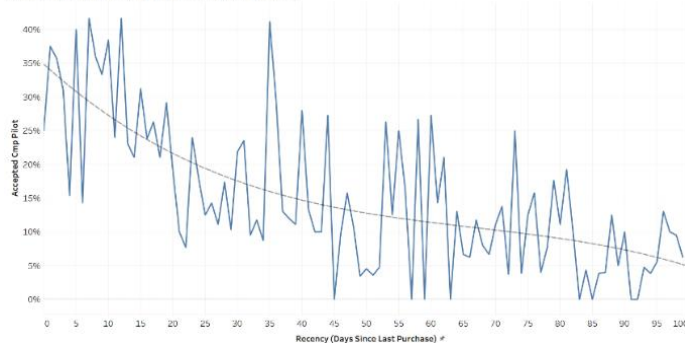
This bar chart shows the percentage of customers who accepted the pilot campaign offer by parental status. The 'kids' group is made up of customers who have one or more kids while the 'no kids' group is made up of customers who have zero kids.

Acceptance Rate of Campaign Pilot by Accepted Number of Previous Campaigns



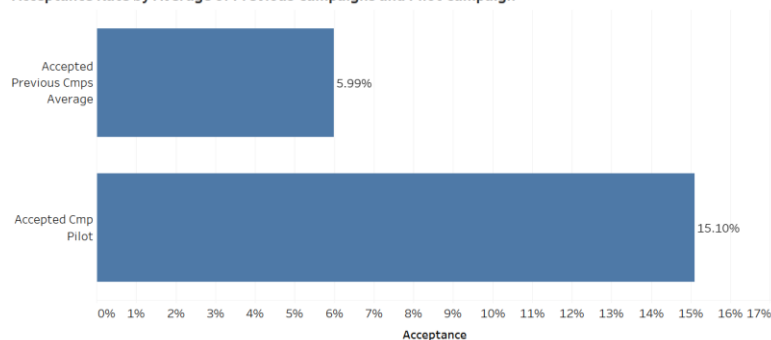
This bar chart shows the percentage of customers who accepted the pilot campaign offer by accepted number of previous campaigns.

Acceptance Rate of Campaign Pilot by Recency of Purchase



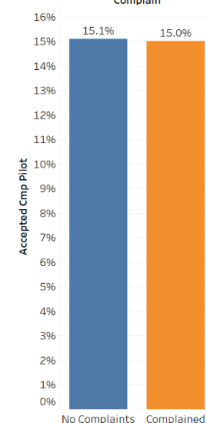
This line chart shows the percentage of customers who accepted the pilot campaign by the number of days since their last purchase. The histogram has bins of 10 days.

Acceptance Rate by Average of Previous Campaigns and Pilot Campaign



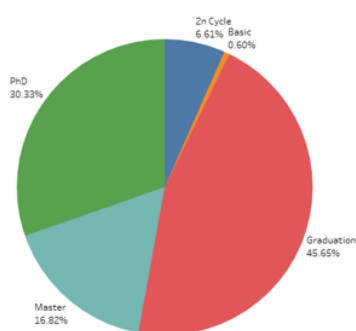
This horizontal bar chart shows the combined average acceptance rate of the previous campaigns and the acceptance rate of the pilot campaign.

Acceptance Rate of Campaign Pilot by Complaint Status



This bar chart shows the percentage of customers that accepted the campaign pilot by if the customer had made a complaint in the last two years.

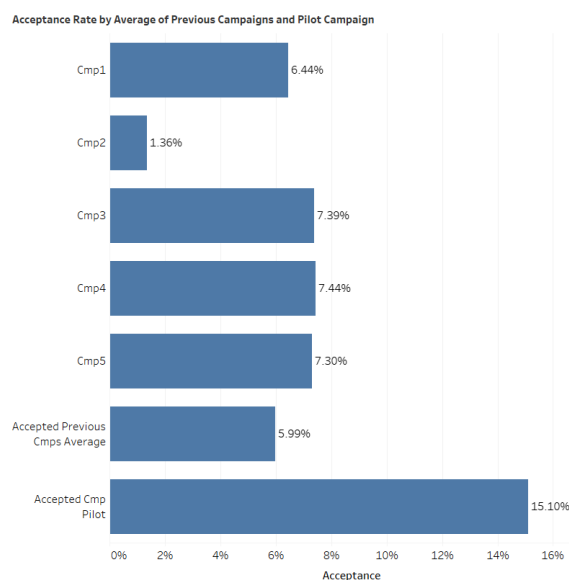
Distribution of Education Level among Customers who Accepted the Campaign Pilot



This pie chart shows the distribution of education level among customers who accepted the campaign pilot.

Analysis:

First of all, the pilot campaign is already looking promising in comparison to previous campaigns. One important aspect in measuring the success of a marketing campaign is seeing if it performs better than previous campaigns (Hall, 2023). As shown in the graph below, the

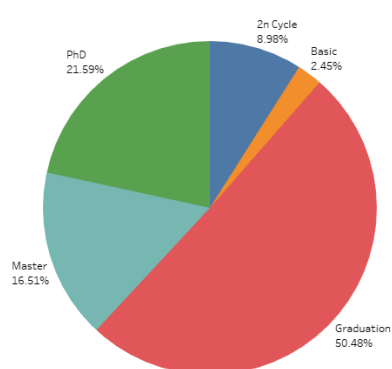


average acceptance rate across the five previous campaigns was 5.99% and the acceptance rate for the pilot campaign was 15.1%. This is a significant improvement over the last campaigns and a fantastic start for Delicious Delights in achieving a ‘highly successful marketing campaign.’ However, it is important to keep in mind that this is a pilot campaign and that if this pilot was immediately turned into a real campaign then the acceptance rate may not be as expected. While this is a very promising start, with some further analysis of the customer and campaign data, this pilot campaign can be changed into a real campaign that will be even more successful and more

appropriate for a real campaign.

Looking at the distribution of education level among customers of Delicious Delights, we can see that an extremely low percentage of customers are at a ‘Basic’ educational level. This is quite surprising considering that in the 2018 New Zealand census, 56.5% of the population aged 15+ did not have a qualification greater than a Level 3 certificate (Highest Qualification Attained by People Living in New Zealand - Figure.NZ, n.d.).

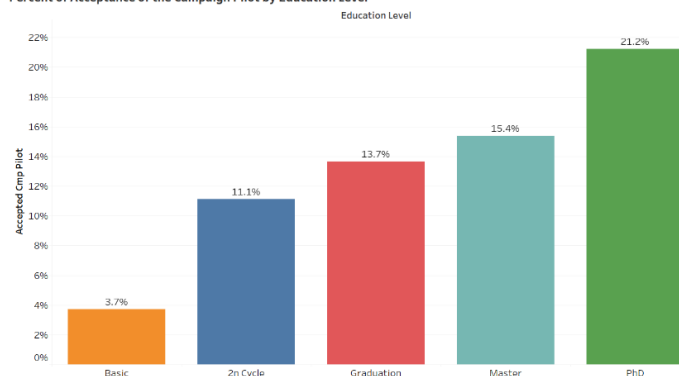
Distribution of Education Level among Customers



Based on these figures, I would highly recommend that Delicious Delights try to attract more customers with a basic education. They make up a large percentage of the population, yet make up less than 2.5% of Delicious Delights’ customers. If Delicious Delights tried to attract customers with a basic education through a marketing campaign, then they could increase their customer base considerably.

When we look at the percentage of acceptance of the campaign pilot by education level, we can see that the higher the education level, the higher the rate of acceptance.

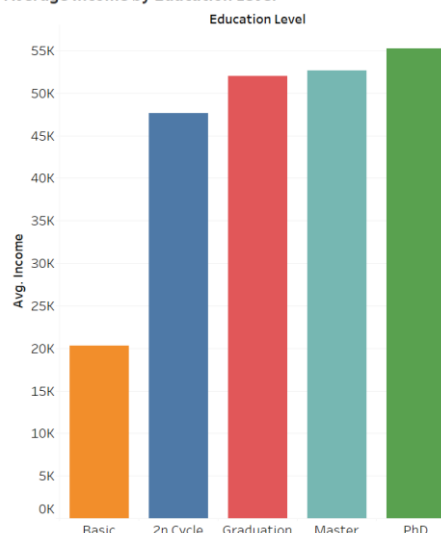
Percent of Acceptance of the Campaign Pilot by Education Level



With the 'basic' level only at 3.7%, this means that the pilot campaign is very unattractive to customers with 'basic' education. This would be understandable if the customer distribution were for something such as a piece of software used by professionals, but food is a product that all humans need food regardless of education level. It is important that

the real marketing campaign attracts those with a basic education as again, they make up a large portion of the population and Delicious Delights is missing out on them as customers. I would recommend that in the real campaign, Delicious Delights make it appeal to those with a basic education more. This could be done in ways such as making the language of the campaign simpler, promoting the campaign in more places that the general public will see, and using concepts in the campaign that are well-known amongst all types of people.

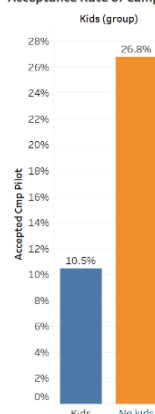
Average Income by Education Level



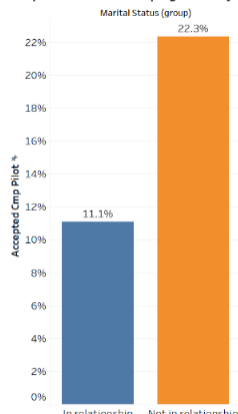
One reason that the 'basic' could be low, and that the percentage of the pilot by education level gets higher for each higher education level could be because the lower the education level, the lower the income (as shown in the bar chart to the left). I would recommend that if Delicious Delights wants more 'basic' education customers and campaign acceptance from them, that they make the real campaign more affordable to those on lower incomes.

As shown in the two graphs below, the rate of acceptance for the pilot campaign is over two times lower for those who have kids compared to those with no kids and is also over two times lower for those in a relationship compared to those not in a relationship. This shows that the pilot campaign is much more attractive to those with no kids compared to those without, and also much more attractive to those not in a relationship compared to those in a relationship.

Acceptance Rate of Campaign Pilot by Parental Status



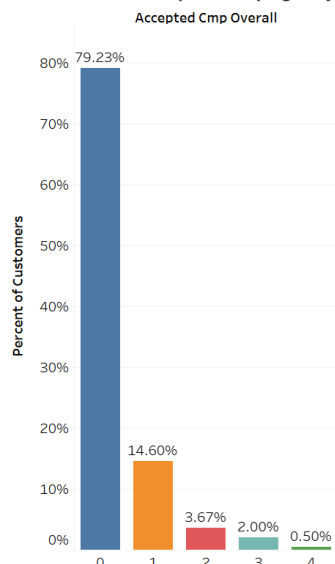
Acceptance Rate of Campaign Pilot by Relationship Status



Because of this, would recommend that Delicious Delights make the real campaign more attractive to customers with kids as well as customers who are in a relationship. This could be done in ways such as targeting the marketing towards families (customers in a relationship with

children), making the campaign more visible to customers with children or in a relationship, and making the campaign more appealing overall to customers who have children and/or are in a relationship.

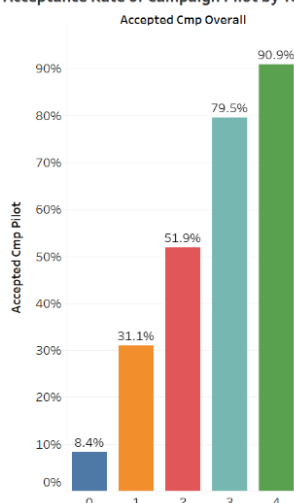
Total Number of Accepted Campaigns by Acceptance Rate



As shown on the graph to the left, nearly 80% of customers have not accepted a previous campaign. Attracting customers who have not accepted a campaign before is something that the real campaign should prioritise as this demographic makes up almost 80% of customers. If these customers were targeted, the overall acceptance rate could be much higher.

As shown in the bar chart below, we can see that the acceptance rate of the pilot campaign increases by the total accepted number of previous campaigns. While it is impressive to see that the acceptance rate of the pilot campaign is high in those who have accepted previous campaigns, it is important to remember that these only make up about 20% of customers (as shown in the previous graph).

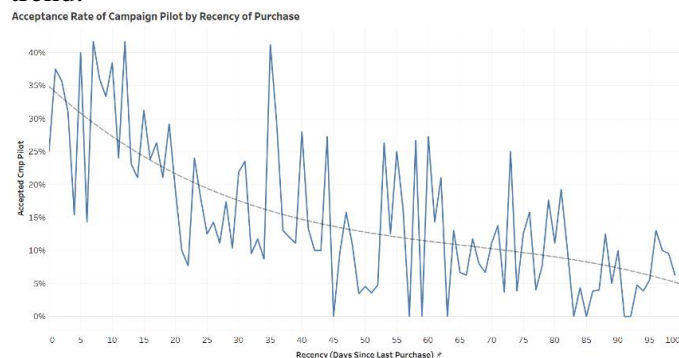
Acceptance Rate of Campaign Pilot by Total Accepted Number of Previous Campaigns



This shows that the pilot campaign is doing well in attracting previous campaign accepters, but not doing nearly as well in attracting customers who have not accepted a campaign before. I would recommend that for the real campaign, Delicious Delights try to make it appeal more to an audience who have not accepted a previous campaign as they make up the majority of customers. This could be done in such ways as changing up the messaging and style of the campaign to appeal to a new audience, offering incentives to those who have not accepted a marketing campaign, and expanding the visibility of the campaign

for those who have not accepted a marketing campaign.

As shown by the polynomial trendline in the line chart below, the percentage of customers who accepted the campaign pilot decreases over time since last purchase, meaning a negative trend.

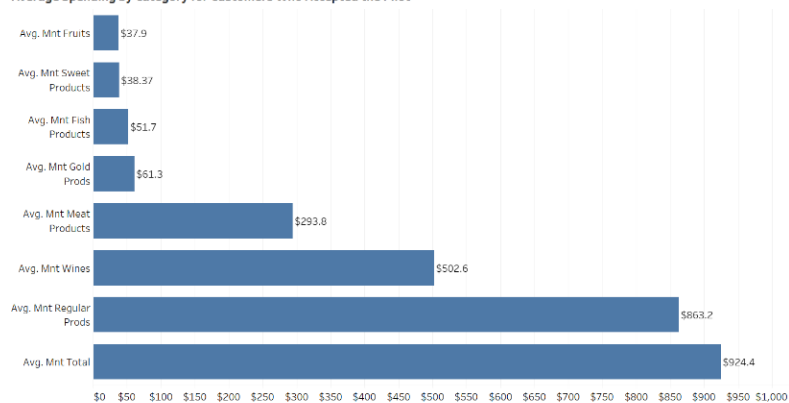


This shows that in general, the longer since a customer has purchased from Delicious Delights, the less likely they are to accept the pilot campaign. I would recommend that for the real campaign, Delicious Delights should put an emphasis on making it attractive to customers who have not purchased from them in a while. This way, Delicious Delights can increase

acceptance rates overall. A few ways that this could be done is by offering incentives in the marketing campaign to customers who have not purchased in the last month/s, targeting the campaign more towards non-purchasing customers, and adding a sense of urgency to the campaign so that customers feel like they might miss out if they do not accept soon.

As shown in the two graphs below, the average amount spent by customers who accepted the pilot is much higher (at \$924.4) than those who did not accept the pilot at almost double (\$498.4). The average spending was also greater for those who accepted the pilot for all food categories, however, the order from lowest to highest spending per category remains the same

Average Spending by Category for Customers Who Accepted the Pilot



Average Spending by Category for Customers Who did not Accept the Pilot



Note: The x-axis for this graph is the same length as the graph above for comparison purposes

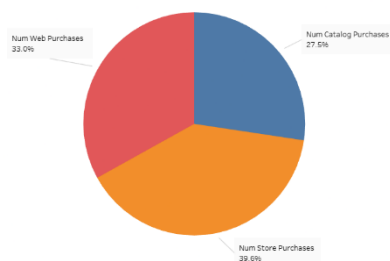
as for those who did not accept the pilot.

As the average spending across all categories and total spending for those who accepted the pilot is higher overall compared to the average spending and total spending for those who did not accept the pilot, this means that on average, the pilot campaign is more attractive to higher spenders across all categories. I would recommend that for the real campaign, Delicious Delights should put more emphasis on targeting smaller spenders to account for this. This could be done, similarly to appealing to customers on lower incomes, in such ways as making the campaign offer more affordable and marketing the campaign directly to customers who spend less than

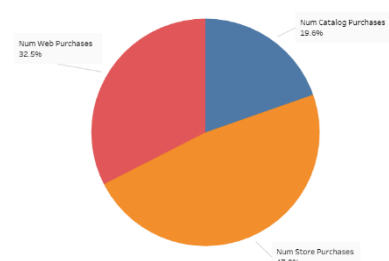
a certain amount.

As shown in the pie chart for the distribution of total purchases in the last two years by purchase method for customers who accepted the pilot campaign, store purchases were the most popular at 39.6% of the total purchases, followed by web purchases at 33% and catalogue purchases at 27.5%. Then looking at the distribution for customers who did not accept the campaign pilot, we can see that web purchases were almost the same at 32.5%, store purchases were 8.3% higher at 47.9%, and catalogue purchases were 7.9% lower.

Total Purchases by purchase method for accepted campaign



Total Purchases by purchase method for not accepted campaign



This shows that catalog purchases made up a greater proportion of purchases among acceptors compared to non-acceptors, store purchases made up a greater proportion of purchases among non-acceptors compared to acceptors, and web purchases were about the same for each group. This shows that the campaign was more attractive to those who make catalogue purchases. I would recommend that if Delicious Delights wants more to accept the campaign, that in the real campaign, they focus more on the number of store purchases as that makes up almost half of the purchases by non-acceptors of the pilot campaign. One way to do this is to promote the campaign more in stores.

Conclusion:

Overall, the pilot campaign was a promising start in comparison to the previous campaigns. However, with some of the insights that I have discovered and recommendations that I have derived from these insights, this pilot campaign should be able to be developed into a real campaign that, as Delicious Delights wanted, 'maximises return on investment and enhances overall business performance.'

References:

Hall, J. (2022, December 25). How To Measure The Success Of Your Marketing Campaigns.

Forbes. <https://www.forbes.com/sites/johnhall/2022/12/25/how-to-measure-the-success-of-your-marketing-campaigns/?sh=2d2092056c44>

Highest qualification attained by people living in New Zealand - Figure.NZ. (n.d.).

Figure.NZ. <https://figure.nz/chart/S0SnFvtEeOTBLxBn>