Hi Angie,

Please see below for a summary of findings for the questions you posed in your last email.

All supporting data sets and code for future re-runs can be found here.

1. **North American Macbook Quarterly and Monthly Sales Trends 2019 - 2022**

**Quarterly:**

* Q2 marks the highest order count (419 / 29.16%) and total revenue ($662,409 /  28.25%) but has the second lowest AOV.
* Q1 shows the highest growth in order count (24.9%) and highest growth in revenue (26.4%). Q1 has the highest AOV.
* Q4 has the lowest order count (309 / 21.5%) and lowest revenue ($497,116 / 21.65%).
* Q3 shows the greatest decrease in order count (-22.9%) and revenue (-23.2) from Q2.
* Average Quarterly Orders: 359
* Average Quarterly Revenue: $574,109
* Average Quarterly AOV: $1,598

**Monthly:**

* February marks the highest monthly revenue ($241,579 / 10.52%) while April has the highest monthly order count (152 / 10.58%)
* December marks the lowest monthly revenue (72 / 5.01%) and order counts ($114,608 / 4.99%)
* The period of Feb - March accounts for 41.02% of annual revenue and 40.92% of annual orders, despite lower than average AOVs (excluding Feb.)
* October marks a sudden spike in order counts (+39.4%) and revenue (+45.5%.)
* Average Monthly Orders: 120
* Average Monthly Revenue: $191,370
* Average Monthly AOV: $1598

1. **What was the monthly refund rate for purchases made in 2020? How many refunds did we have each month in 2021 for Apple products?**

**Refunds 2020**

* Monthly refund rates ranged from 2.52% in December to 3.95% in July. The average monthly refund rate was 3.12%

**Apple Refunds**

* The monthly refund count for Apple products in 2021 ranged from 14 in November and December, to 40 in March.
* The average monthly refund count was 25.58.

1. **Are there certain products that are getting refunded more frequently than others? What are the top 3 most frequently refunded products across all years? What are the top 3 products that have the highest count of refunds?**

**Top 3 Refund Rates**

* The three products with the highest refund rate are Macbook Air Laptop (4.17% refund rate,) Thinkpad Laptop (3.83%,) and Apple iPhone (3.52%.)

**Most Refunded Products**

* The most commonly refunded items are Apple Airpod Headphones (647 returns,) the 27” Gaming Monitor (395,) and Macbook Air Laptop (118.)

1. **What’s the average order value across different account creation methods in the first two months of 2022? Which method had the most new customers in this time?**

**AOV By Account Creation Method**

* Desktop ($237.88 AOV,) Mobile ($210.30,) Tablet ($136.08,) TV ($120.00.)
* Desktop-created accounts make 78.12% of all orders in this period, followed by mobile at 20.91% of all orders.

**New Customers by Account Creation Method**

* 2487 accounts were created by Desktop during this period, and 26.54% made a purchase during this period.
* 701 accounts were created by Mobile, and 25.96% made a purchase.
* 25 accounts were created by Tablet, and 24.00% made a purchase.
* 1 account was created by TV and this account made a purchase.

1. **Question 5: What’s the average time between customer registration and placing an order?**

* Customers will wait on average 64.8 days from registration to making a purchase. However, this takes into account all purchases made over customer lifetime.
* When considering registration to *first* purchase, the interval drops to 51.5 days.

1. **Which marketing channels perform the best in each region? Does the top channel differ across regions?**

* All marketing channels follow the same hierarchy of performance across all regions - Direct Traffic (84% of global revenue and 79% of orders,) Email (12% global revenue and 18% of orders,) Affiliate (3% global revenue and 2% of orders,) and Social Media (1% global revenue, 1% of orders.)
* Direct traffic has the second highest AOV globally at $272.94, while Affiliate traffic has a slightly higher global AOV at $283.68.

1. **For customers who purchased more than 4 orders across all years, what was the order ID, product, and purchase date of their most recent order?**

* A total of 22 customers made 4 or more orders across all years. The order details for their most recent purchases can be found here.

1. **For each brand, which month in 2020 had the highest number of refunds, and how many refunds did that month have?**

* Apple Products had the most refunds (60) in December and their highest refund rate (4.2%) in July.
* Bose had 0 refunds in 2020 selling a total of 15 units.
* Generic (no brand listed) products had their highest number of returns (26) in March and their highest refund rate (5.5%) in November.
* IBM products had their highest number of returns (9) in February and their highest refund rate (9.5%) in December.
* Samsung products had their highest number of returns (9) in February as well. February also marked their highest refund rate (2.4%.)