**To: RMA Team**

**From: Brandon Hobbs**

**Date: March 35, 2022**

**Subject: DAD-220 Project 2**

After reviewing the RMA Data there are a few take aways. First, Massachusetts has the most RMAs (988) and South Carolina has the least (715). Moreover, all 48 contiguous states have RMAs associated with them. The full list is contained within the appendix.

Upon querying the database for orders by SKU and the RMA by SKU it is seen that the there are more RMAs generate than orders. That is, there are 37,997 orders in the system and 38,161 RMA. Therefore, even at a high level more RMAs are being generated than orders. More interestingly is the return rate associated with the various SKU. The table below summarizes the current count of Orders and RMA per SKU:

A screenshot of a computer

Description automatically generated with medium confidence

What is not known is what date period this data covers or even if the date periods are consistent. That is, the *Orders* database may represent the last 6 months of orders but the *RMA* table the last 5 years or RMAs. A potential extension to the Orders and RMA tables might be to include the Order Date and the RMA Approval Date.

Of the 38,161 RMA 89.7% are Complete, 3.9% in Initiated, and 6.3% are Pending status. 89.7% are in the P*roduct replacement or account refund processed* state, 6.3% are awaiting customer documentation, and 3.9% are in the *Received returned equipment* state.

A picture containing text

Description automatically generated

Text

Description automatically generated with low confidence

Furthermore, there does not appear to be a collaborator that “abuses” the RMA process as there is no single collaborator with a skewed RMA count.

A picture containing text

Description automatically generated

Lastly, the major reason an RMA is created is due to the order being *Defective* and the diminutive reason is *Rejected*.

Based on this analysis there appears to be an opportunity in continued product improvements to reduce the return rate.

Regards,

Brandon Hobbs

**Appendix:**

Full RMA by State

A picture containing timeline

Description automatically generated

Commands List

*Select Customers.State, Count(Distinct RMAID) AS Returns*

*From Customers*

*Left Join Orders*

*On Orders.CollaboratorID = Customers.CollaboratorID*

*Inner Join RMA*

*ON Orders.OrderID = RMA.OrderID*

*Group by State*

*Order by Returns DESC;*

*Select SKU, Count(Orders.OrderID)*

*From Orders*

*Group by SKU;*

*Select SKU, Count(RMAID)*

*From RMA*

*Inner Join Orders*

*on Orders.OrderID = RMA.OrderID*

*Group by SKU;*

*Select Orders.SKU, Count(Distinct Orders.OrderID) As Orders, RMA\_Count, (RMA\_Count / Count(\*) \* 100) AS 'Return Rate %'*

*From Orders*

*left join (*

*Select SKU, Count(Distinct RMAID) as RMA\_Count*

*From RMA*

*Inner Join Orders*

*on Orders.OrderID = RMA.OrderID*

*Group by SKU*

*) As RMA\_Count\_join*

*on RMA\_Count\_join.SKU = Orders.SKU*

*Group by SKU*

*Order by Orders DESC;*

*Select Customers.CollaboratorID AS "Cust. ID", CONCAT(Customers.FirstName, " ", Customers.LastName) AS Customer, Count(RMA.RMAID) As RMA\_Count*

*From Customers*

*Left Join Orders*

*On Customers.CollaboratorID = Orders.CollaboratorID*

*Inner Join RMA*

*ON Orders.OrderID = RMA.OrderID*

*Group by Customers.CollaboratorID*

*Having RMA\_Count > 2*

*Order by RMA\_Count DESC*

*Limit 20;*

*select count(\*),Reason*

*from RMA*

*Group by Reason;*

*select count(\*),Status*

*from RMA*

*Group by Status;*

*select count(\*) as Amount, Step*

*from RMA*

*Group by Step*

*Order by Amount DESC;*