

DAD 220 Project Two Cassello

RMA Report

Write a report to respond to the manager's requests. In the report, you should complete the following actions:

- Summarize the data you've been working with.
- Identify key information that will help the company streamline operations.

Your report should explain your findings in a way nontechnical stakeholders can understand and use.

Use the steps below to capture the required data and produce the analysis report.

- Begin by writing SQL commands to **capture** specific **usable data** for your analysis. You already preloaded the data you need into Codio.
- Specifically, the product manager wants you to complete the following analysis:
 - **Analyze the number of returns by state and describe findings to include in your report.**

```
mysql > use QuantigrationUpdates;
```

```
mysql > select State, count(*) as Return_Count  
> from RMA  
> join Collaborators on RMA.CollaboratorID = Collaborators.CustomerID  
> group by State  
> order by Return_Count desc;
```

The screenshot shows a MySQL query executed in a terminal window. The query is as follows:

```
mysql> select State, count(*) as Return_Count
-> from RMA
-> join Collaborators on RMA.CollaboratorID = Collaborators.CustomerID
-> group by State
-> order by Return_Count desc;
```

The results are displayed in a table with two columns: State and Return_Count. The table is sorted by Return_Count in descending order. The results are as follows:

State	Return_Count
Massachusetts	385
West Virginia	338
Montana	336
Idaho	329
Tennessee	327
Delaware	323
Arkansas	322
Nevada	317
Oregon	311
New Mexico	311
Minnesota	309
Mississippi	309
New York	308
Alabama	305
Arizona	305
North Dakota	304
South Dakota	303
Washington	303
Maryland	303
New Hampshire	299
Iowa	298
Georgia	297
North Carolina	297
Michigan	296
Louisiana	296
California	296
California	296
Wyoming	295
Connecticut	295
Maine	294
South Carolina	293
Wisconsin	293
Rhode Island	293
Kentucky	292
Indiana	292
Ohio	292
Utah	291
Nebraska	290
Missouri	290
Florida	289
Pennsylvania	287
Colorado	286
Texas	286
Hawaii	284
Illinois	283
Vermont	277
New Jersey	268
Oklahoma	266
Kansas	249

48 rows in set (0.64 sec)

After analyzing the return frequency by state, it is evident that certain regions exhibit notable disparities in return states. Massachusetts leads all states in returns with a count of 385 returns, closely trailed by West Virginia with 338 and Montana with 336. Kansas demonstrates the lowest return frequency with only 249 returns. These findings offer valuable insights into geographical trends, which may enable the company to allocate resources more strategically to ensure a more optimal product.

- Analyze the percentage of returns by product type and describe findings to include in your report.

```
mysql> select Description as Product_Type,
> count(*) as Return_Count,
> count(*) * 100 / (select count(*) from RMA) as Return_Percentage
> from RMA
> join Orders on RMA.CollaboratorID = Orders.CollaboratorID
> group by Description
> order by Return_Percentage desc;
```

```
mysql> select Description as Product_Type, count(*) as Return_Count, count(*) * 100.0 / (select count(*) from RMA as Return_Percentage
> from RMA
> join Orders on RMA.CollaboratorID = Orders.CollaboratorID
> group by Description
> order by Return_Percentage desc;
```

Product_Type	Return_Count	Return_Percentage
Basic Switch 10/100/1000 BaseT 48 port	3167	8.2990
Enterprise Switch 48GigE SFP+ 48 port	2411	6.3180
Enterprise Switch 18GigE SFP+ 48 port	1850	4.3238
Advanced Switch 18GigE Copper 24 port	1617	4.2373
Basic Switch 10/100/1000 BaseT 8 port	1603	4.2006
Enterprise Switch 18GigE SFP+ 24 Port	1601	4.1954
Advanced Switch 10 GigE Copper/Fiber 44 port coppe	1525	3.9962
Enterprise Switch 48GigE SFP+ 24 port	829	2.1724
Basic Switch 10/100/1000 BaseT 24 port	9	0.0236

After analyzing the return percentages by product type, I uncovered notable variations among different product categories. The product "Basic Switch 10/100/1000 Base T 48 port" emerges with the highest return count of 3,167, representing a substantial 8.2990% return rate. On the contrary, the product "Basic Switch 10/100/100 Base T 24 port" exhibits a minimal return count of only 9, which translates to a return percentage of 0.0236%. These insights prove to be valuable again because it enables the company to strategically prioritize quality control efforts and product enhancement initiatives to ensure the quality of these products.

- Write a report to clearly summarize your RMA data analysis for stakeholders. When you summarize the results, consider the following questions:
 - How does the data provide the product manager with usable information?
 - What are the potential flaws in the data that has been presented?
 - Are there any limitations on your conclusions or any other ways of looking at your findings that you haven't considered? Clearly communicate your findings to stakeholders.

My analysis of the RMA data provides useful insights for the product manager to make informed decisions and optimized operations. By examining return frequencies by

state, I was able to identify geographical trends which can assist in targeted resource allocation and to help maintain an optimal operation. For instance, Massachusetts exhibits the highest return frequency, which suggests potential areas for improvement in customer service or the quality of the product. On the other hand, states like Kansas demonstrated lower return frequencies, which indicate areas of strength where current strategies may be effective.

Furthermore, analyzing return percentages by product type offers valuable insights into product performance and customer preferences. Products such as the "Basic Switch 10/100/1000 Base T 48 port" show higher return rates compared to others, indicating potential issues that need to be addressed. Understanding these return percentages enables the product manager to prioritize quality control efforts and focus on product improvement initiatives, ultimately enhancing customer satisfaction and reducing return rates. However, it is essential to acknowledge potential flaws and limitations in the data. One potential flaw could be incomplete or an inaccurate data entry, leading to discrepancies in return frequencies or percentages. Additionally, external factors such as seasonality or economic conditions may influence return rates, but were not considered in this analysis. Another limitation is the lack of context surrounding the reason for returns, such as defects in the product or shipping issues, which could help offer deeper insights into areas for improvements. Additionally, customer feedback could provide a more holistic understanding of product performance and customer satisfaction. These limitations should be taken into account when interpreting the findings and making decisions based on the analysis.

In conclusion, my RMA data analysis provides the product manager with valuable insights to optimize operations and improve customer satisfaction. By leveraging geographical and product specific trends, the company can make informed decisions to reduce return rates and enhance overall efficiency. While the analysis offered useful insights, it is crucial to consider potential flaws and limitations in the data and continue refining the analysis methodologies to ensure accurate and relevance in my findings.