7-1 Project Two: Data Analysis RMA Report

1. **Analysis of returns by state**

A screenshot of a computer

Description automatically generated

A screenshot of a computer screen

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* 1. Command used:

SELECT Customers.State AS STATE, COUNT(\*) AS FREQUENCY

-> FROM Orders INNER JOIN RMA ON Orders.OrderID = RMA.OrderID

-> INNER JOIN Customers ON Customers.CustomerID = Orders.CustomerID

-> GROUP BY STATE

-> ORDER BY FREQUENCY DESC;

* 1. Description of data:
     1. Based on the results of the query I ran, it appears that the following states are experiencing the highest sales counts:
        1. Massachusetts with 972 sales
        2. Arkansas with 844 sales
        3. Oregon with 840 sales
        4. West Virginia with 837 sales
        5. Alabama with 836 sales

1. **Analysis of percentage of returns by product type**

A screen shot of a computer

Description automatically generated

* 1. Command used:

SELECT SKU AS PRODUCT, description AS DESCRIPTION,

-> (COUNT(\*)\*100/(SELECT COUNT(\*) FROM Orders INNER JOIN RMA ON Orders.OrderID = RMA.OrderID)) AS PERCENTAGE

-> FROM Orders INNER JOIN RMA ON Orders.OrderID = RMA.OrderID

-> GROUP BY SKU ORDER BY PERCENTAGE DESC;

b. Description of data:

i. Based on the results of the query I ran, it appears that the following products represent the highest percentage of sales.

1. BAS-48-1C with 22.05%

2. ENT-48-40F with 16.27%

3. ENT-48-10F with 11.41%

4. BAS-08-1C with 11.31%

5. ENT-25-10F with 11.26%

3. **Summary of data**

* How does the data provide the product manager with usable information?
  + The data provided can assist the product manager in deciding where to focus efforts on increasing sales. As sales numbers are already high in the states listed above, focusing efforts elsewhere may help boost sales in other states. The product manager could also communicate with those state offices whose sales are high and determine why their sales are high and how their strategies could be applied in states where sales are lower.
* What are the potential flaws in the data that has been presented?
  + It is possible that there was some human error involved with how the data was recorded which could result in skewed results on state sales performances and which products represent the highest percentage of sales. Several of the top sales were very close percentage wise and with some mishandled data being uploaded into the database the top 5 could be inaccurate to some degree.
* Are there any limitation on your conclusions?
  + Yes, any conclusions I draw can only be as good as the data within the database is. Ensuring that data is uploaded and maintained properly reduces these limitations, however, they can still exist.

**4. Analysis for stakeholders:**

As asked, I ran queries to answer the questions given to me. It appears state sales are high in the following states: Massachusetts, Arkansas, Oregon, West Virginia, and Alabama. Communicating with the offices located in these states regarding strategies they implement to boost sales could provide more insight as to why state sales are high there and new strategies based on theirs could be implemented in other states where sales are struggling. The following products represent the highest percentage of sales: BAS-48-1C, ENT-48-40F, ENT-48-10F, BAS-08-1C, and ENT-24-10F. Based on this, we can communicate with our engineers to determine what sets these products apart from the others to better design future products. It is possible there is some skew in this data due to human error.