RMA Report Analysis

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Description automatically generatedThis query was used to determine the number of sales by state. Results are limited to 25 (rather than 50) because it is most helpful to analyze the states with the most sales because they have the biggest impact on company profits and are therefore most relevant.

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The results show the number of sales in each state in descending order. Massachusetts has the greatest number of sales at 982 and in New York there were about 200 less sales, totaling 791.

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The data was then queried to determine the number of returns that occurred in each state in descending order. Again, Massachusetts is at the top of the list for greatest number of returns, which is logical because they produce more sales. Washington and New York are at the bottom of the list, which is also in line with our results for number of sales by state. If there is a problem identified in these states, solving it will intuitively decrease the number of returns in the remaining states with less sales and returns.

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When queried to determine the percentage of returns by product type, note that these results are comprehensive for all 50 states. The percentage of returns yielded are specifically in relation to product type rather than location. There are only 9 products, which makes the data relatively easy to analyze. ‘Basic Switch 10/100/1000 BaseT 48 port’ has the highest rate of returns, at about 20%. ‘Basic Switch 10/100/1000 BaseT 24 port’ has the lowest rate, at less than 1%.

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To understand the significance of the last query, percentage of returns, it is important to know how many of each product was sold. For example, a return rate of 20% may not be significant if only 10 of those products were sold when the sales of other products numbered in the thousands. ‘Basic Switch 10/100/1000 BaseT 48 port’ is the best-selling product and culminated in 8,385 sales. This same product had the greatest number of returns, at a rate of about 20%. ‘Basic Switch 10/100/1000 BaseT 24 port’ has a sum of only 34 sales, the worst-selling product. In the last query it was identified that this product had a return rate of less than 1%.

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Finally, the data is queried to determine the reasons for the returns. About 39% of all returns are attributed to the characterization ‘Incorrect,’ as in the customer was provided with the incorrect product. About 37% of returns are reported as ‘Defective,’ meaning that the product the customer received was faulty. The remaining 24% of returns are reported classified under the reason ‘Other.’

Returns by State

The state with the greatest number of returns is Massachusetts, which also had the most sales. 982 sales occurred in Massachusetts, but 972 of those products were returned! This means about 99% of the products sold there were returned. Looking more closely at the number of sales versus returns in the other states, this rate was found to be similar amongst all states. This is very concerning because the results reveal that nearly every product purchased was ultimately returned. If accurate, it can be concluded that there is no profit whatsoever and the failing company is a regrettable investment for the stakeholders.

Percentage of Returns by Product Type

Analysis of the percentage of returns by product type revealed strikingly contradictory results when compared those of returns by state. The highest rate of return was only about 20%, for the company’s best-selling product: ‘Basic Switch 10/100/1000 BaseT 48 port.’ When products are returned, the customer is provided the opportunity to identify the reasoning behind the decision. There are only three possible options listed as reasons for a return, and they are: (1) the incorrect product was received, (2) the product received is defective, or (3) ‘other.’ About 39% of returns were attributed to being incorrect, 37% defective, and 24% were ambiguously classified as ‘other.’ The most logical way to increase profits and prevent further losses due to returns in the future is by identifying and resolving workflow and production issues. It is alarming that so many customers are not receiving the product they purchased. Is this potentially caused by a flaw in the packaging and shipping process? Is it technical or personnel related? Once identified, this flaw should be easily remedied. The defective products may also be addressed to decrease the rate of returns once the faulty element is uncovered. Other than improving the defective products and correcting the ordering/shipping processes to generate more profit and prevent returns from unsatisfied customers, a change can be made to the business’s return policy. Products can be sold without allowing for a return or full refund, but this can also lead to a drop in customers who prefer to purchase a quality and reliable product.

Summary

The data provides invaluable insight that can be used to recognize opportunities for improvement within the company. The most important information to take away from this analysis is the identification of which products are being returned most frequently. With this data, the company can focus on the products with the most returns and make changes to prevent further returns and therefore increase future profits.

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Though invaluable, analysis has uncovered potential flaws in the data presented. For example, when returns grouped by state are examined and compared to sales by state, the percentage of returns is nearly 100%. These results are unlikely to be accurate because otherwise the company would be bankrupt. This flaw within the data needs to be further investigated and rectified. Additionally, there are limitations the resulted conclusions. For example, it must be questioned whether the returned products labeled as ‘defective’ are truly so. It is possible that the customers are uninformed on proper use of the products and assume they are faulty, leading to returns. If further inquiry determines there are much fewer verified defective products, the company may simply need to provide better instructions on use to their customers. Additionally, are the products returned for being ‘incorrect’ due to the customer ordering the wrong product or due to receiving a product they did not order? This needs to be clarified to determine if changes need to be made to the ordering and shipping departments or if there simply needs to be a more thorough description of the products provided to the customers so that they can order appropriately for their needs? Finally, for the products returned with the reason of ‘other,’ not much can be determined, and it may be a consideration to modify the list of return reasons available to the customers to improve the usability of the data.