DDDM II Capstone Final Artifact Project-Data Analysis Report-Culminating Project

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The data for sales of different sports equipment throughout 2017 at a sports supplies store has been collected in the 2017 Sports Equipment Sales Report. This document analyzes that data and discusses the type of data provided, the kind of data available, and suggested ways to use the data. Furthermore, the results of this data set are explored in detail and discussed in full.

To start with, the first data type provided in Column A of the 2017 Sports Equipment Sales Report is "Equipment." The data type for "Equipment" is known as Qualitative-Nominal. James R. Evans, in the textbook "Business Analytics," states the definition of nominal data as "categorical data which is sorted into categories according to specified characteristics" (2020). In this case, this data is nominal because it refers to the names of the kinds of sports equipment sold by the store, such as balls, racquets, bats, etc. The following data type, provided in Column B of the report, is "Equipment ID." In the same way as the first type, "Equipment ID" is also Qualitative-Nominal type data. To elaborate, the "Equipment ID" is a numerical label assigned to each category of equipment as determined by the store's inventory system. Therefore, since this data is categorical, the "Equipment ID" is nominal type data. The third data provided in the report is the sales for each month, which are provided in Columns C – N. These columns show dollar amounts per month for each type of equipment sold, which means that this data can be labeled as Quantitative-Ratio. Ratio data is defined as having a natural zero point, being economic or business-related, and dealing with money or time (Evans, 2020). Since the sales for each month are expressed through dollar amounts, it is ratio-type data.

Next, the kind of data that is available in the 2017 Sports Equipment Sales Report is the sales of each month in 2017 (January – December) listed separately by equipment category. Rows 3 through 8 show sales for each kind of Equipment (Balls, Goals, Nets, and so forth), with sales recorded separately by month, and the cumulative sales total for each item displayed in Column O. Furthermore, Columns C – N display each month's total sales, shown individually by equipment type, with Row 9 reflecting the total sales for each month. Finally, in Column P, we can see a visual representation of the trends for each sales category across the year. It is evident that there was an increase in sales for each type of equipment sold when comparing totals from January to December.

Equally important, the data reflected in this report can be used to determine which equipment types are most popular by showing which items sell the most in total by the end of December. This can indicate which items may need more marketing or different sales strategies. Another way to use the data would be to evaluate which months see the most sales. This can determine whether more staff may need to be hired to keep up with the influx of customers and when additional inventory may be needed. A third way the data can be used is to measure the sales team's success at the sports supplies store. By looking at the overall sales for the year, if each type of sporting equipment has an increase in sales, it can be determined that the sales team was successful.

To thoroughly discuss the data of the 2017 Sports Equipment Sales Report, it is necessary to explore 10 questions about the information presented in the report. First, how many product categories are represented in the report? There are six different product categories listed: 1) Balls, 2) Goals, 3) Nets, 4) Racquets, 5) Rods and Tackle, and 6) Sticks, Bats, and Clubs. Next, what is the overview of monthly sales for 2017? Overall, the total sales for each month stayed within a range between $9,000 and $11,000, with January and December being the outliers. January had the lowest amount of sales with a total of $7,994, and December had the highest sales total of $12,378. Further, based on the visualized data in Column P, the trend shows that sales went up over the year, and the total sales for 2017 were $122,957.

Additionally, what were the average sales per month in 2017 as displayed on the report? According to the 2017 Sports Equipment Sales Report, the average sales per month for the sports supplies store was $10,246.42. Furthermore, what were the median sales per month? Analysis of the report shows that the median sales per month in 2017 were $10,184.50.

Next, what were the minimum sales per month during 2017? The minimum sales per month were $7,994.00, reflecting the amount of sales in January, the least successful month. Likewise, what were the maximum sales per month? Based on the report, the maximum sales per month were $12,378.00, which corresponds to the earnings for December, the month with the highest sales.

Equally important, what was the range of sales per month at the sports supplies store in 2017? As stated in the 2017 Sports Equipment Sales Report, the range of sales per month was $4,384.00. Also, what was the frequency of the total sales in 2017 for each piece of equipment? The frequency of total sales for each piece of equipment were as follows: Balls 19.6%, Goals 15.7%, Nets 14.1%, Racquets 16.9%, Rods and Tackle 12.8%, and Sticks, Bats, and Clubs 20.8%.

Furthermore, what was the correlation between "Balls" sales and "Goals" sales? According to the report, the correlation between "Balls" sales and "Goals" sales was 0.505. Additionally, what was the correlation between "Nets" sales and "Rods and Tackle" sales? The correlation between "Nets" sales and "Rods and Tackle" sales in 2017 was 0.686.

Next, as reported by the sales equipment store, what was the relationship between "Balls" sales and "Goal" sales compared to the relationship between "Nets" sales and "Rods and Tackle" sales? As per the report, the relationship between "Balls" sales and "Goal" sales is weaker than the relationship between "Nets" sales and "Rods and Tackle" sales.

Finally, several recommendations are presented for improvement based on the data presented in the 2017 Sports Equipment Sales Report. First, since January had the lowest sales, the sports supplies store should work on new marketing and sales strategies to bring in additional customers and boost sales. Secondly, the least popular type of equipment sold in 2017 was Rods and Tackle. This category should be evaluated to see why it does not sell as much as other types of equipment. A customer survey would provide helpful information to this end. Lastly, a sales strategy is to create equipment bundles of Rods and Tackle with items in more successful equipment categories and sell them at a slightly reduced price to boost sales.

Reference

Evans, J. R. (2020). Chapter 4: Descriptive Statistics. In *Business Analytics, 3rd Edition*. essay, Pearson.