Report for Global Electronics - Actionable Insights and Recommendations

**Executive Summary :**

This report provides an in-depth analysis of sales trends, product performance, customer demographics, geographic distribution, store performance, and the impact of fluctuating exchange rates. The insights gained will guide strategic decisions to optimize sales, enhance customer satisfaction, and improve profitability.

**Insights and Recommendations:**

**Customer Analysis:**

***Gender Distribution:***

The number of male and female customers among the total customers are found out where 50.75% are males and 49.25% are females.

***Customer Demographics:***

Using histogram the customers count in various age groups are determined where we can see between 50-70 age group customers count is high.

***Purchase Patterns:***

The purchase pattern of customers under product categories are visualized in pie chart and we could see computer category with most amount of customers and TV and video category with least.

***Preferred products:***

The top 10 preferred products of customers are tabulated where Adventure Works Desktop PC3.20 MD230 Black comes at the top with 160 customers.

***Geographical Distribution:***

The distribution of customers around the globe is show using filled map. We could see more United states with most customers followed by UK and Germany.

***Recommendations for Customer Analysis:***

* Develop steps to attract younger age groups in the customers count.
* The availability of the products with most consumers should be checked in the inventory.
* Marketing should be done one products under least purchased categories.

**Sales Analysis:**

***Sales by month and year:***

This data is depicted using a line chart and we could see December 2019 with highest number of sales and April 2017 with the lowest sales.

***Sales by store:***

From the line chart we could see store with key 0(Online store) with highest number of sales which is 13165 and store with key 2 has the lowest number of sales which is 18.

***Top products by Sales:***

From the pie chart distribution of top 10 sold out products, Adventure Works Desktop PC3.20 MD230 Black stands at the top with 162 purchases.

***Sales by Currency and Max Exchange rates:***

Here the exchange rate is calculated in terms of USD. As we can see from line chart most sales are done using USD as currency and the least with AUD as currency.

***Recommendations for Sales Analysis:***

* The decline in the sales on certain months and years should be studied and effective steps must be undertaken to overcome in the next business cycle.
* Study on stores with less sales must be carried out and steps to increase the sales must be done.
* Exchange rate fluctuations results in product price variations which must be put into notice of the customers.

**Product Analysis:**

***Product Popularity:***

The top most sold out products and least sold out products are depicted using a line chart.

***Subcategory Analysis:***

The most sold product subcategory is Movie DVD which is 9169 and least sold subcategory is Air conditioners which is 312.

***Category Analysis:***

Using histogram we found out the most sold category computers(14025) and least sold category TV and videos(3558).

***Profitability Analysis:***

Using pie chart the sum of profit of various product categories are calculated. The Home Appliances category generated the most profit - 206.39K USD.

The Games and Toys category generated the least profit – 3.86K USD.

***Recommendations for Product Analysis:***

* Customer feedback must be taken to improve the quality of products and understand customer needs.
* Step to increase the profit % of the least profit product categories should be implemented.

**Store Analysis:**

***Store performance:***

The performance of various stores under the total sales along with opening date is depicted using a column chart. The online store with store key 0 tops this list.

The sales according to the size of the stores is also calculated using a line chart where the most sales was found on a store with size 2000m2 and the size of store with least size is 245m2.

***Geographical Analysis:***

Using Filled map chart the location of stores across the globe along with total store numbers are shown. United States has the most stores with 20 stores while Canada and Italy has least stores with 3 stores.

***Recommendations for Store Analysis:***

* The stores with least sales should be monitored to find the reasons for less sales in terms of size, marketing strategies etc and the requisites to improve sales must be done.
* Currently the stores are only setup in three continents like North America, Europe and Australia. It should be taken to rest of the Continents and global market should be expanded.

**Conclusion:**

This insights and recommendations on various analysis will help Global Electronics make informed decisions that enhance customer satisfaction, optimize operations, and drive overall business growth.