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# Introduction

This report will explore and highlight key findings within the dataset using Tableau’s data visualisation tool to extract commercially important insights. Presenting analyses and inferences in a story format to senior management to aid in decision making. Recommendations based on the findings will be provided at the end of the report.

# Product Performance

A map of the world with green and red colors

Description automatically generated  
**Fig.1 Product Performance Dashboard**

From the profit ratio by geography graph in fig.1, Turkmenistan (-1.629), Kazakhstan (-1.542), Yemen (-1.503), Uganda (-1.496) and Nigeria (-1.486) had the lowest profit ratio. All are developing countries in Africa and the Middle East. The lowest profitable market segments were Canada and EMEA. EMEA also has the highest average discount given. It was found that the market segment of Canada did not have any discount over the 4-year period. A suggestion is to offer discounts would increase sales and profit.

According to the product performance insights, tables in the furniture category has consistently made losses over the 4 years. With an average discount rate of 29% which is disproportionately higher than the other sub-categories. Difficulties in turning a profit for tables, could be due to discounts in an effort to make more sales.

# Sales & Profit Analysis

A close-up of a graph

Description automatically generated  
**Fig.2 Most & Least Profitable Countries**

Findings from most profitable countries in fig.2, show that United States brings ($286.40k) in the most profit, which is around two or more times as much as other countries on the list, except for China ($150.68k). Countries like India ($129.07k), United Kingdom ($111.90k), France ($109.03k), Germany ($107.32), Australia ($103.91k) and Mexico ($102.82k) profit variance across these countries is narrow, with all falling within a $10k range. Countries and the breakdown of product sub-category orders can be viewed when mousing over.

According to the least profitable countries graph, Turkey (-$98.45k) has brought in losses two or more times as much as the other 6 countries (Netherlands (-$41.07k), Honduras (-$29.48k), Pakistan (-$22.45k), Argentina (-$18.69k), Panama (-$17.72k), and Sweden (-$17.52k)). Nigeria (-$80.75k) came in second place. Countries and the breakdown of product sub-category orders can be viewed when mousing over.

A graph of different colored bars

Description automatically generated with medium confidence  
**Fig.3 Most Popular Product by Sub-category**

In fig.3, the most sold products were binders (21,429), storage (16,917) and art (16,301). Findings show that phones ($1,707k), copiers ($1,509k), chairs ($1,502k), and bookcases ($1,467k) were the best performing products according to sales. On the other hand, labels ($73k) and fasteners ($83k) are lower performing products, in terms of sales. However, paper (24.2%), labels (20.4%), accessories (17.3%), envelopes (17.3%), copiers (17.1%), binder (15.7%), art (15.6%), appliance (14%), fasteners (13.8%), phones (12.7%), furnishings (12.2%), and bookcases (11%) have higher profit ratio among the product sub-categories. These double-digit profit ratios are usually considered good. Overall, by sub-category, all products are performing well.

# Shipping Performance and Cost

A screenshot of a computer

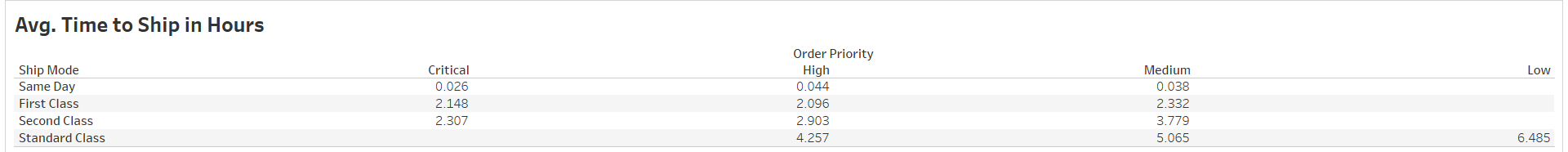
Description automatically generated  
**Fig.4 Avg. Shipping Cost & Std. Dev.**

In Fig.4, for same day delivery, average shipping cost of furniture for home office is the highest. On average, shipment of furniture for first class delivery is highest for the corporate segment. While shipment cost of furniture for second class and standard class delivery is highest on average, for the consumer segment.

In the office supplies category, average shipping cost for same day and second class were highest for the home office segment. Average shipping cost for first class is highest for the consumer segment. Average shipping cost for standard class is highest for the corporate segment.

In the technology segment, average shipping cost for same day and standard class were highest for the home office segment. Average shipping cost for first class were highest for the consumer segment. Average shipping cost for second class was highest for the corporate segment.

The standard deviation of relevant shipping cost is below the average shipping cost. The office supplies category’s standard deviations were lower than the technology and furniture categories. Which is within expectations, due to smaller shipping space required.

  
**Fig.5 Avg. Time to Ship**

The “Avg. time to ship” means the time elapsed from receiving the order from customers till shipping out the product. In fig.5, for same day delivery, as its name suggests, shipped within the day. First and second class have rather similar average time to ship for critical and high priority of 2 days. However, differed by 1 day for medium priority. Standard class delivery has a more delayed average time to ship, with high priority (4 days), medium priority (5 days) and low priority (6 days).

A screenshot of a computer

Description automatically generated  
**Fig.6 Order Priority & Ship Mode Comparison**

After analysis of the data, there were some recommendations for improvement. Shipping cost is considered part of the overall expenses incurred to fulfil customer orders. In fig.6, for critical priority, first and second class shipping both have an average of 2 days to ship, but first class has a higher shipping cost. As for high priority, first and second class shipping both also have an average of 2 days to ship, but first class also has a higher shipping cost. In medium priority, the average cost for first class shipping is higher than same day shipping.

We believe this goes against the order decreasing shipping standard. Which is: same day, first class, second class and standard class. The recommendation is to remove the higher shipping cost option, first class shipping. Thus, reducing cost for the company and increasing profits.

# Recommendations

## Product Recommendations

* In order to improve the profitability of tables, **bundle chairs and tables in promotional deals.**
* For products with negative profitability like Samsung Smart Phone (Cordless), Hoover (White) and Motorola Smart Phone (Cordless). **Reduce costs by negotiating with suppliers for better deals.**
* **Increase price for products in the technology category**, due to the global chip shortage.

## Shipping Recommendations

* **Remove the first-class shipping option** to reduce providing redundant service and to reduce shipping cost borne by the company.
* **Increase price of products** to account for the increase in shipping costs, due to the pandemic and supply chain disruptions.
* **Reduce shipping cost** byengaging third-party delivery services in their respective countries.

## Market Recommendations

* **Cease operations in unprofitable countries**, some countries are unprofitable on all product sub-categories. Countries like **Turkey, Nigeria, Netherlands, Honduras, Pakistan, Argentina, Panama, and Sweden**. It is better to stop operations than to continue accumulating losses.

## Additional research

* Reasons for unprofitability in the **Netherlands and Sweden** need to be ascertained.