**COURSEWORK REPORT**

**TABLEAU**

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Table of Contents

[Executive Summary 3](#_Toc128576165)

[1. Introduction 4](#_Toc128576166)

[1.1 Purpose 4](#_Toc128576167)

[1.2 Data 4](#_Toc128576168)

[1.3 Visualization and Approach 4](#_Toc128576169)

[2. Observations and Recommendations 5](#_Toc128576170)

[2.1 Sales and Profit Overview 5](#_Toc128576171)

[2.2 Which market and products should we focus more? 6](#_Toc128576172)

[2.3 Shipment Analysis 7](#_Toc128576173)

[2.4 Customer Analysis 8](#_Toc128576174)

[2.5 Profit and Sales Forecasting for FY2022 9](#_Toc128576175)

[3. Conclusion 10](#_Toc128576176)

[4. References 11](#_Toc128576177)

# **Executive Summary**

In this modern world, data become essential parts for the company and business to be dynamic in its industry and profitable in a long run. In this report, we will present five interactive dashboards and each of which will cover and analyze on different aspects of a business. Those dashboards will focus on the following topics such as total sales and profit overview, shipment analysis, which market and products should we focus more, customer analysis, and profit projection for FY2022.

From Sales and Profit Overview, sales and profit generated from different countries are analyzed, along with the sales and profit by category and segment. Moreover, Year-over-Year (YoY) and Month-over-Month (MoM) sales and profit growth are evaluated. In the next dashboard, we will figure out which market or products we should focus on to escalate the sales and profit by using BCG Growth-Share Matrix, analyzing sales growth, and profit by sub-category and profit ratio, and sales share by different markets. In Shipment Analysis, we can clearly see the shipping results such as nearly half of the shipments are shipped late, average days to ship and shipping costs depending on different ship mode and order priority.

Through customer segmentation by RFM analysis and cohort analysis, the customer behaviors and preferences can be found. Moreover, we can differentiate which customers need attention, are loyal, potential loyal, and so on. We can also analyze the top customers depending on their spending amount. For the last findings, forecasting for FY2022, we will predict overall profit and sales, forecast profit by category, segment, and market.

Some of the key findings are Canada has lowest sales share in market but has highest profit ratios. Furniture has second largest sales but generating lowest profit among other category products. For the critical order priority, the shipping costs are much higher than other order priority ship mode. Moreover, low order priority customers only prefer standard class ship mode since it is a lot cheaper. Second class ship mode is facing most delayed shipments, followed by first class. From customer analysis. We found out that from 2019 to 2021, most of the sales and profit are from the customers who purchase their first order in 2018. Lastly, it is interesting and important to note that both sales and profits are peak during the fourth quarter of every year however, they are significantly drop on every first quarter.

Although the business and company are operating well in every year, most markets, and sectors, optimizing the business is still essential. In this report, we will be analyzing the data from different perspective and recommendation will be provided on how to strategize the business plan to be more successful, dominate the market, and record-breaking sales and profits in upcoming years and long run.

# **Introduction**

## **1.1 Purpose**

This report shows the performance of the company from 2018 to 2021. The purpose of the report is to present and find the insights of the sales and profit margins of different categories, segments, markets, countries, customer behaviors, and other key performances that are essentials for the success of the business. Moreover, the recommendations for the different topics are given to improve the overall performances of the company.

## **1.2 Data**

The data provided in this report are from January 2018 to December 2021. To identify the critical insights, we will evaluate the dataset by analyzing the company's performance and market trend. Additionally, Tableau is used to create predicted data for FY2022.

## **1.3 Visualization and Approach**

In this report, Tableau is used for analyzing and visualization the data by using bar charts, line charts, packed bubble chart, cohort chart, and others essential charts are used to create the interactive dashboards.

# **2. Observations and Recommendations**

## **2.1 Sales and Profit Overview**

Chart

Description automatically generated

**Observation**

According to **figure 1.1**, United States has both highest profit and sales of $286,397 and $2,297,201, followed by China with a profit of $150,683. On the other hand, Turkey has the lowest profit of -$98,447.

In **figure 1.2**, we can clearly see that Consumer generates the highest sales and profits of $6,507,949 (51.48%), and $749,240 (51.06%) subsequently. Among segment, Consumer is making half of the total sales and profits. As shown in **figure 1.3**, Technology has biggest total sales and profits of $4,744,557 (37.53%) and $663,779 (45.23%) respectively. Although Furniture makes second highest total sales, it has the lowest total profits and profit margin of $285,205 and 19.44%. It is quite interesting to see that Office Supplies have poorest total sales of $3,787,070 but has a relatively good profit margin at 35.33%.

In **figure 1.4**. In December, the profit growth is significantly increased from 2019 to 2020, 55.5% growth rate. However, from 2018 to 2019 and 2020 to 2021, there are negative growth rates, -20.6% and -6.5% respectively.

According to **figure 1.5**, sales in December 2021 ($503,144) is decreased compared to the last month and the revenue growth rate is -9.39%. The profit margin also decrease from November 2021 to December 2021 and the growth rate is -25.36%.

**Recommendation**

We must focus on the increasing the sales and profits for the first quarter of the year (January to March). It would be ideal to unveil new products from the company or introduce new promotions and deals at the beginning of the year to attract the customers. Furthermore, we should investigate the countries where we are making loss in profits and find the solution to solve it.

## **2.2 Which market and products should we focus more?**

Chart

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**Observation**

In **Figure 2.1**, Bookcases and Copiers can be considered as “star” products because of high market share and high growth. Products in 4th quadrant are “cash cows” products with low growth but high market share. According to **figure 2.2**, all the products in sub-category are making the profits, except for “Tables”, making the loss of -$64,083. For the year-over-year growth (**figure 2.3**), all the products are growing, except Supplies and Machines which are decreasing in growth in 2019 but they are back on track and keep growing in 2020 and 2021.

As shown in **figure 2.4 and 2.5**, despite having the lowest sales share (0.53%), Canada has the highest profit ratio (26.62%) compared to other market. Thus, we can clearly see that sales and profit ratio are not directly related. Markets such as Africa, APAC, LATAM, EU, and US have the profit ratios between 10% to 15%. However, EMEA market has a relatively low profit ratio which is only 5.45%. In the sales shares, Asia-Pacific market is leading with highest sales of $3,585,744 (28.36%).

**Recommendation**

We should figure out a solution for “Tables” since they are making loss in the market. Thus, we should reduce the production or eliminate of selling them in the market. And we could significantly invest on the “star” products since they have high potentials to be grown more and get much profit from them. We could focus and market more on Canada market since it is generating very high profit ratio. We should also maintain the sales and profit ratio in the big market where we can attain many customers and sales.

## **2.3 Shipment Analysis**

Graphical user interface

Description automatically generated

**Observation**

According to **Figure 3.1**, 29.12% of shipments are shipped early, 28.26% are shipped on time and 42.62% are shipped late. **Figure 3.2** shows that the bulky products such as bookcases, tables, and copiers cost much more average shipping fees than other products. As shown in **figure 3.3**, first class, second class, and standard class shipping take average 2 days, 3 days, and 5 days respectively to ship. In **figure 3.4**, standard class for low order priority causes longest average days to ship and same day shipping for critical order priority results in shortest average days to ship but highest costs for shipping. Customers with critical order priority do not prefer standard class since it takes the longest day to ship. For the low order priority, customers only choose the standard class shipping since it is the cheapest options among the shipping mode. **Figure 3.5** illustrates that same day shipping is the lowest shipment delay with 3.74% but second class causes highest delayed with 40.66%.

**Recommendation**

We should try to focus more on shipping the products on time to avoid customer dissatisfaction. Thus, we should reduce the diversity of the shipping mode for some of the order priority. For example, instead of allowing all 4 different ship modes for medium order priority, we could just allow medium and standard shipping class so that we could emphasize more and minimize delays on first class ship mode for critical and high order priority.

## **2.4 Customer Analysis**

Chart, treemap chart

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**Observation**

According to **figure 4.1**, most of the sales and profits generated in 2019, 2020, and 2021 are from the customers who placed their first order in 2018. Most of our customers are the existing one and we have very less new customers. This can be confirmed with the information analyzed. **Figure 4.3** shows that one-third of the customers are in “At-Risk” segment (37.30%), followed by “Potential Loyalist” (25.45%), and “Need Attention” (20.13%). By cohort analysis (**figure 4.5**), most of the customers buy the products again in the next quarter of the year that they purchase.

**Recommendation**

We could do personalized reactivation campaign for the “At-Risk” customers to encourage them to purchase the products again. Moreover, we should offer membership or loyal programs to our “Potential Loyalist” customers. It is also very important to maintain our loyal customers so that we should offer them the exclusive deals, or we can reward the top customers of a month or a year. To succeed in the long run, we need to attract both existing and new customers. Thus, we can introduce the offers and promotions for the new customers for their first 3 or 5 purchases.

## **2.5 Profit and Sales Forecasting for FY2022**

Chart

Description automatically generated

**Observation**

We forecast the company’s performance for the upcoming year, 2022. As shown in **figure 5.1**, the sales and profit are estimated to be significantly dropped in the first quarter while they are expected to rise starting from second quarter of 2022. These are also relevant for the category and segment forecasting (**figure 5.3 and 5.4**). However, there is an expectation to be slightly decreased in profit for the office suppliers from third to fourth quarter of 2022. According to **figure 5.2**, the profit from APAC market is estimated to be dynamically dropped at the start of the year 2022.

**Recommendation**

The sales and profits are always dropping at the first quarter of the year. We could plan and implement a new strategy to solve these issues to be more successful and profitable in the future. In some of the markets such as Africa, Canada, and EMEA, the company should strategize to boost the profits so that there will be possibly increased in the profits.

# **3. Conclusion**

To summarize, the company is operating well in the United States with the highest profit while Turkey is the lowest due to the tremendous loss in all sub-categories. Thus, we should implement great marketing strategy (5Ps) and research about the economics and culture of that country to know that what are the needs and wants of the customers. Technology is dominating the market with both highest sales and profit and Canada has the highest profit shares although it has the lowest sales shares in the market.

Among the sub-category product, Tables are making the huge loss in profit for the company and some of the other products are decreased in sales growth after each year. From customer segmentation, we can clearly see that one-third of the customers are “At-Risk” so that we need to implement more strategies for those customers.

Forecasting for FY2022 shows that fourth quarter will generate the highest profits and sales as previous years since there are many festivals and special occasions to celebrate such as Black Friday, Christmas, Year-End Sales and so on.

Therefore, based on the dashboards and story created, senior management team can analyze the data, visualize them, make better decision making and implement strategies to boost the performances of the company so that the company will be successful and profitable in a long run.

# **4. References**

HAYES, A. (7 Septemeber, 2022). *Understanding the BCG Growth Share Matrix and How to Use It*. Retrieved February, 2023, from Investopedia: https://www.investopedia.com/terms/b/bcg.asp#:~:text=The%20BCG%20growth%2Dshare%20matrix%20contains%20four%20distinct%20categories%3A%20%22,%22%20and%20%E2%80%9Cquestion%20marks.%E2%80%9D

K, B. (15 July, 2021). *Cohort analysis in Tableau*. Retrieved February , 2022, from Rigor Data Solutions: https://www.rigordatasolutions.com/post/cohort-analysis-in-tableau

Talha. (11 March, 2021). *Setting up RFM Analysis in Tableau: A Comprehensive Guide*. Retrieved February, 2022, from Hevo: https://hevodata.com/learn/setting-up-rfm-analysis-in-tableau/#:~:text=To%20perform%20RFM%20Analysis%2C%20you,divide%20each%20metric%20into%20quintiles.