**PROJECT  
 Data Visualization for Analytics**

**Dataset selected**:  
Adidas Sales Dataset  
Data set consist of the details Adidas Sales in United States and it is taken from Kaggle.  
Link for reference:<https://www.kaggle.com/datasets/heemalichaudhari/adidas-sales-dataset/code>  
  
**Tools Used**:  
Tableau, MS word, MS excel.

**Introduction**

We have selected Adidas sales dataset as our project, this dataset consists of following fields

|  |  |
| --- | --- |
| **Attribute** | **Description** |
| Retailer | The name or identifier of the retailer. |
| Retailer ID | A unique identifier assigned to each retailer. |
| Invoice Date | The date when the invoice was issued for the transaction. |
| Region | The geographical region where the retailer operates (e.g., America). |
| State | The specific state or province within the region where the retailer is located. |
| City | The city where the retailer’s business is situated. |
| Product | The name or type of product sold by the retailer. |
| Price per Unit | The cost of one unit of the product (price at which it is sold to customers). |
| Units Sold | The quantity of product units sold in a specific transaction. |
| Total Sales | The total revenue generated from the sale of the product (Price per Unit × Units Sold). |
| Operating Profit | The profit earned by the retailer after deducting all operating expenses (e.g., costs, taxes). |
| Operating Margin | The percentage of operating profit relative to total sales (Operating Profit / Total Sales). |
| Sales Method | The method or channel through which the product was sold (e.g., in-store, online, wholesale). |

**Rationale Behind Data Selection:**

Using the above attributes we have generated multiple data visualizations which will help in analytics.

We have prepared various charts showing implications of attributes like region, sale method, product and profit margin on the overall total sales in the years 2020-2021.

We have prepared two dashboards, bar diagrams, trend lines, pie charts and funnel charts which will help in visualizing our dataset in an efficient and productive manner.

Hence, we can use this project and help the management of Adidas in their strategic management and decision making.

**Problem Statement:**

The goal of this analysis is to identify the key factors driving Adidas sales for the year 2020-2021 sales based on the various factors available within the dataset. here, we use several visualization techniques to understand the patterns and provide useful insights to the management, so that management can be supported by this info for strategic decision-making process.

ANALYSIS

**Sales and Profit by state Map Chart:**

A screenshot of a computer

Description automatically generated

* This chart consists of state wise U.S.A map of the sales and profit of current year (2021) and filtered by the range of color indicating the intensity of sale and the size of dot indicating the profit.
* We can observe the sales distribution over all the states as given in the dataset where California as a state has the highest ranking in sales and profit.
* North Dakota, South Dakota, Nebraska are the states with the lowest performance which means scope for enhancement in product, market development.
* We can observe California being the best in all the regions. We can conclude more marketing should be done for other states to promote the products of adidas in other states.

**Total sales by retailer Bar Chart:**

A screenshot of a computer

Description automatically generated

* We have taken this bar chart on retailer-wise sales report filtered by the year. We can see the details as we select each year individually through the filter. Additionally, we have also segmented the bars by color coding based on region of sale.
* West Gear is the primary partner in the retail group as the maximum revenue being generated from West Gear.
* We can also observe that the west region is dominating all other regions, giving an insight into the region wise performance of west gear so that we can mimic the contracts and commissions with other retailers as well. So that we give competitive spirit among our partners.

**Sales Sparkline Chart:**

A screenshot of a computer

Description automatically generated

* The sales sparkline shows the exponential growth of sales in the current year when compared to the previous year.
* The steep increase in the blue line shows multi folded growth rate so that indicates our business idea implementations has been successful and we need to maintain the same.

**Correlation of Sales and Profit:**

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Description automatically generated

* The apparent correlation between the sales and profits can be shown by bars and lines respectively to compare within.
* We can observe clearly that only five months of the year have given above the average performance showing the need to focus on other months sales.
* Additionally, we can observe the directly proportional relationship between sales and profits.

**Individual Retailer Performance Funnel Chart:**

A screenshot of a computer

Description automatically generated

* The above funnel chart gives the picture of Walmart’s contribution to overall profit which is least performer of all the retailers.
* Walmart being known for its own product marketing strategy we must incur high commission to showcase our products.
* Being budget friendly environment in the Walmart it is difficult to showcase designer apparel from Adidias.

**Product Wise Profit Chart:**

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Description automatically generated

* In this chart we can see the product-wise profit share out of total profit over all the regions.
* We can observe that Men’s Street Footwear being the darkest shade indicating the star product of our product range which fetches maximum sales and profit.
* Management can have a clear picture of the performance of each product which will help in identifying the individual product performance.

**BUSSINESS IMPLICATIONS**

* **Enhancing Decision Making Power:**

Various visualization charts are the insights for the data and the decision-making process gets easier when the relevant attributes of the data and the influence of such attributes on the performance can be gauged using this project.

* **Data Driven Approach:**

The practical usage of the analysis gives light on the future of the organization. The effective usage of the sales data can be varied powerful tool to make all operating management decisions.

* **Marketing management:**

The analysis of segment wise, product wise, region wise and sales method wise total sales data enables the marketing department to take wise decisions on the topics like which region is to be focused more, what products should be developed, which is the profitable sales method.

* **Effects on Key Performance indicators:**   
    
  The project shares multiple implications of key performance indicators on overall sales and profit. The indicators like region, product, type of retailer on the sales and profit. The management can take decisions based on such insights to improve overall performance.

**CONCULSIONS**

* **Identifying Cost-Saving Opportunities:**

The total number of units sold in In-store and online are very similar so the online industry and online marketing is to be prioritized so that the costs of maintaining the exclusive outlets can be saved without revenue disturbances.

Majority of profit margins are generated from the In-store method of sales so negotiating proper commissions with the partners will help in reducing the costs and maximize the profits.

* **Revenue generation possibilities and new market segments:**

The organization has stepped into amazon as a method of sale in the year 2021 and we have a large potential as amazon being the online giant. The organization is advised to keep focus groups to improve its performance on amazon. As we can see in the graph total sales by retailer the performance on the amazon has beaten the sales of Walmart.

* **Efficient Resource Allocation:**

As per the chart Correlation of sales and profit in the second dashboard the sales performance in the months of March and February are very much lagging behind when compared to the other months. So, we can advise the company to allocate some of the advertising and marketing departments resources to improve the performance

* **Engaging Stakeholders and Facilitating Collaboration:**

The interactive Dashboard in this project enables the users and stakeholders to navigate through the data and get a clear picture on the sales region wise, segment wise and etc. Hence the project will help in making calculated strategic decisions.

In the first dashboard we can see the Total Sales, Total profit and Total units sold in trend lines to get the basic understanding of overall performance of the company.

In the second dashboard we can observe the analytical parts of the project where the distribution on the profit margins in a pie chart and correlation between sales and profit and product wise profit.

* **Providing a Competitive Edge:**

Adidas has a competitive edge over its competitors in the sports apparel, but the online segment is the concurrent necessity and the focus on such online sales will be helpful.

By observing the carts like product wise quantity The men’s street Footwear has the highest number of units sold and higher profits when compared to other apparel in the market so the emphasis on this segment will give a competitive edge on the existing market and helps in product penetration and market development.

--------------------------------------------------THE END----------------------------------------------------------------