
BUSINESS INTELLIGENCE AND BUSINESS ANALYTICS

Topic: ADIDAS SALES

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Abstract

The shoe market is an active and competitive sector of the global economy that offers a various selection of footwear items to meet the demands and preferences of customers. The shoe market is affected by many different factors, such as changing consumer demographics, technological developments in materials, design, and fashion trends etc. The focus of this project is to increase the sales of Adidas shoes in the market. To increase the sales, we are using some new business approaches. Resolving operational problems that arose during the expansion phase centers on the establishment of a Customer Relationship Management (CRM) system and the improvement of business processes through the application of visualization tools.

I. Introduction

Adidas is a well-known shoe brand in the world. Adidas was started by "Adi Dassler" in 1949 with 47 employees in Germany. The name "Adidas" comes from the name of its founder "Adi Dassler". In the early years, Adidas gained fame for its innovative athletic shoes, including screw-in studs that helped the German national soccer team win the 1954 World Cup. Later year by year they established their brand all over the world. Its vision is to be the best shoe branding company globally, while its mission centers on helping athletes achieve their full potential. The company's core values include performance, passion, integrity, and diversity.

As per the analysis, Adidas has 1860 franchises all around the world. The sales percentage of Adidas has broken down as compared to past years. Adidas has mainly two methods of sales are wholesale and direct-to-customer [DTC] sales. According to the analysis the percentage of sales in 2023 is less than 3% as compared to 2022 for wholesale but in direct-to-customer sales [DTC] the sales are increased by 2% than in 2022.

II. Scope of Process

After the analysis, we understand that the DTC way sales are increasing nowadays. Based on this result, we are going to implement some methods to increase the DTC percentage in different ways. The main goal of this project is to create a customer relationship model and dashboards. This will also help us with future business progress.

1. Customer Relationship Management

CRM (Customer Relationship Management) is a technology that provides comprehensive guidelines and support for businesses in developing, maintaining, and managing customer relationships. Customer-centric strategy is crucial for the survival and success of a business since nowadays, customers have more varied and higher expectations than in the past.[1]

2. Dashboards

To maintain profitability in the shoe market, it's important to analyse sales trends. To maintain competitive business decisions, we require data-driven arguments. An understanding of such sales patterns can assist the organization to optimum the use of resources and then eventually improve their profits. This could help in selecting a region of interest (ROI) to focus on. Effective initiatives can increase market penetration and client retention.

A business intelligence dashboard tool is used for collecting, analysing, and presenting data using various techniques and methodologies for data visualization.[2]. Nowadays we have many BI tools available which help employees to create insightful dashboards. Here we are using 'Power BI' for creating the dashboards. Power BI (Business Intelligence) is a cloud-based knowledge inquiry that can be used to analyse as well as notify information from a wide range of sources. Power BI is simple and easy to implement for both power consumers and business experts.[2]

III. Business Strategy

Adidas may improve its business strategy by implementing two innovative techniques: product recycling and sneaker customization.

- **Product Recycling**

Adidas may attract environmentally conscious customers by promoting sustainability through recycling programs and the use of eco-friendly materials by implementing a recycling product strategy. Also, the customers will exchange their old shoes and buy new shoes at a reasonable price. It will also decrease the company's production cost by using recycled material and make a better profit from it.

- **Customisation of Product**

Adidas can offer their customers a customized option by improving their buying experience and creating a sense of brand loyalty. Adidas has positioned

itself as a forward-thinking and customer-centric brand in the competitive footwear and clothing business thanks to these strategies, which are in line with current market trends towards sustainability and customization. This will increase the sales of direct-to-customer [DTC] of the company.

IV. Process Flow

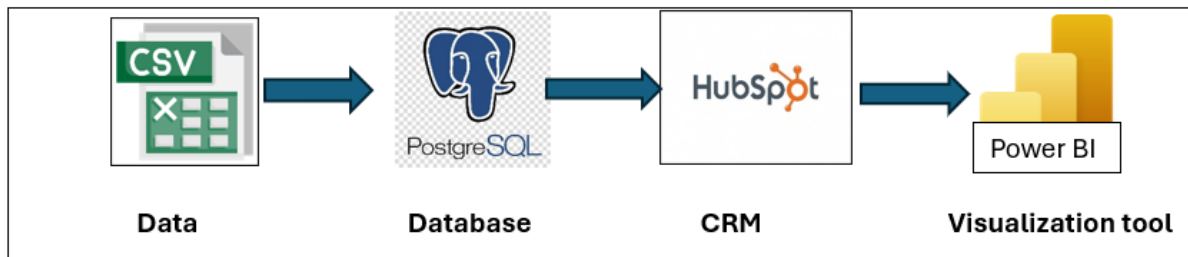


Fig:1 – Process Flow

The above figure shows the process flow of our project. First, we take Adidas sale CSV data from the Kaggle and then load the data into Jupiter using pandas' data frame and then clean the data and do some visualization, and predict some machine learning models.

The cleaned data is stored in a CSV file and then load the cleaned data to the PostgreSQL DB and connected the CRM with the database using API and then connected the CRM with Power BI using coupler.io for further visualization and dashboard creation.

V. Database Design

It is necessary to understand the importance of entity relationships in the business and for the implementation of the CRM and dashboards of our project.

Here we are using 'PostgreSQL' as our DB. We also used docker to install PostgreSQL because every person in the group can access the DB. Then we load the cleaned data into DB. Then connect the DB with CRM using API for further process. Here we are showing the ER diagram to understand the entity relationships-

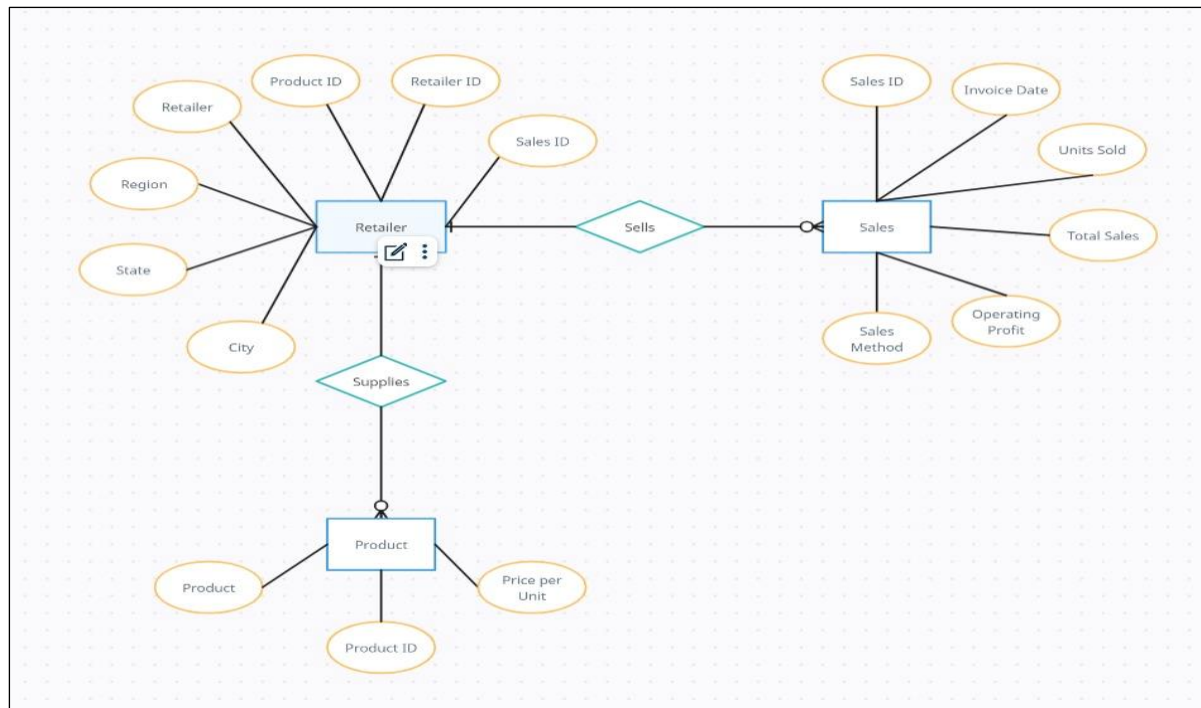


Fig 2: ER diagram

Here we have three tables in the database. The three tables are Product, Retailer, and Sales.

- **Product Table:**

In the product table, we have all product-related data such as product ID, product name, category, and price per unit. Here 'product id' is the unique value so we set product id as the primary key and it also acts as a foreign key for the sales table.

- Product id [primary key]: Unique ID to identify the product.
- Product Name: Name of the product.
- Category: This attribute represents the category of each product.
- Price per unit: This attribute represents the price of a single unit.

- **Retailer Table:**

In the retail table, we have all the retailer details to identify which retailer was selling the products. Here 'retailer id' is the unique value so we set this as a primary key and it also acts as a foreign key for the sales table.

- Retailer ID [primary key]: Unique ID to identify the product.
- Retailer Name: Name of the retailer.
- Region: This attribute has the region of the retailer.
- State: It includes the state of the retailer.
- City: it includes the city of the retailer.

- **Sales Table:**

In the sales table, we have all the sale-related details to identify the sales details of the company. Here 'sales ID' is the unique ID to identify the sales details, so it is the primary key of the sales table. The product ID and the retailer ID are the foreign keys of the sales table.

- Sales id [Primary key]: Unique ID to identify the sales details.
- Invoice date: It represents the date of the purchase.
- Units sold: It helps as to identify how many units was sold.
- Total sales It represents the total sales of the products.
- Operating profit: It represents the profit of each sale.
- Sales Method: It gives the information about the sales method.

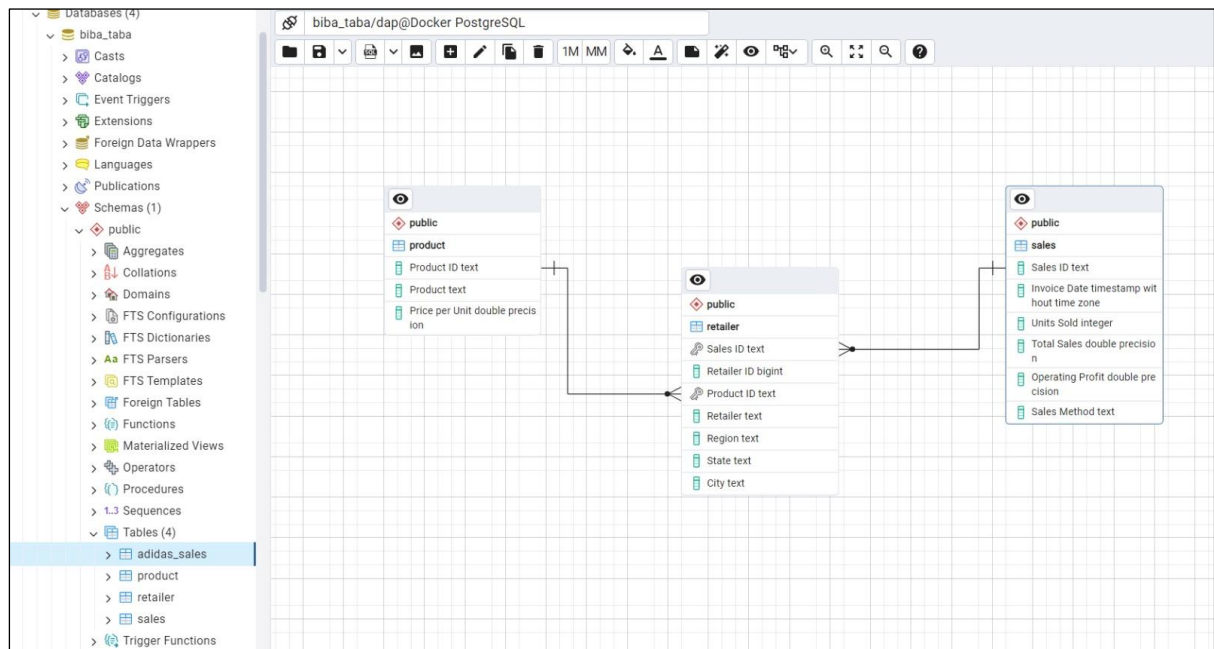


Fig 3: PostgreSQL DB tables

VI. System Design

- CRM

CRM is very useful for the company for maintaining and managing customer relationships. Here we are using HubSpot's CRM. HubSpot's customer relationship management (CRM) software, provides a wide range of capabilities for sales, marketing, and customer support.

CITY	PRICE_PER_UNIT	PRODUCT	REGION	RETAILER
New York	45	Women's Apparel	Northeast	Walmart
New York	43	Men's Athletic Footwear	Northeast	Walmart
New York	36	Women's Apparel	Northeast	Foot Locker
New York	32	Women's Street Footwear	Northeast	Foot Locker
Charleston	25	Women's Apparel	Northeast	West Gear

Fig.4: CRM

Coupler.io is used to connect the CRM to Power BI. Coupler.io is an integration tool that periodically synchronizes data between different services. Consolidating data from several sources into a single location is made simpler by the ability for users to set up automatic information synchronization across apps and services. Fig.5 shows the connection.

Fig.5: Coupler.IO

- Power BI

Power BI is a type of visualization tool that combines several tables and charts to give the user a 360-degree perspective of the phenomenon under study. Dashboards are essential to data analysis and visualization because they

give users even those with little experience with ICT the ability to get insights and make wise choices [3]. Coupler.io is used to connect the CRM and Power BI.

The screenshot shows the Power Query Editor interface. The main area displays a table with the following columns: city, invoice_date, operating_profit, price_per_unit, product, region, and retailer. The table contains 22 rows of data. The right-hand pane shows the 'Query Settings' for the 'Table.TransformColumnTypes' query, with the 'APPLIED STEPS' list showing 'Source', 'Converted to Table', 'Expanded Column1', and 'Changed Type'.

city	invoice_date	operating_profit	price_per_unit	product	region	retailer
1 Little Rock	11/20/2021 12:00:00 AM	1969		25 Men's Athletic Footwear	South	West Gear
2 St. Louis	8/17/2021 12:00:00 AM	3063		25 Women's Street Footwear	Midwest	Foot Locker
3 St. Louis	6/18/2021 1:00:00 AM	3500		25 Women's Athletic Footwear	Midwest	Foot Locker
4 Salt Lake City	2/11/2021 12:00:00 AM	2400		20 Women's Athletic Footwear	West	West Gear
5 Columbus	1/12/2021 12:00:00 AM	3600		30 Women's Street Footwear	Midwest	Amazon
6 Charlotte	7/2/2021 1:00:00 AM	882		60 Men's Street Footwear	Southeast	Sports Direct
7 St. Louis	9/19/2021 1:00:00 AM	1650		25 Women's Athletic Footwear	Midwest	Foot Locker
8 Salt Lake City	10/11/2021 1:00:00 AM	2888		30 Men's Apparel	West	West Gear
9 New York	3/11/2020 12:00:00 AM	482		41 Men's Athletic Footwear	Northeast	Foot Locker
10 Charlotte	8/12/2021 1:00:00 AM	996		60 Men's Street Footwear	Southeast	Sports Direct
11 New York	4/22/2021 1:00:00 AM	406		34 Women's Athletic Footwear	Northeast	Walmart
12 Knoxville	4/14/2021 1:00:00 AM	668		37 Women's Apparel	South	Sports Direct
13 New York	3/7/2020 12:00:00 AM	429		38 Women's Athletic Footwear	Northeast	Foot Locker
14 St. Louis	11/18/2021 12:00:00 AM	2581		25 Women's Street Footwear	Midwest	Foot Locker
15 Jackson	2/18/2021 12:00:00 AM	3250		25 Women's Athletic Footwear	South	Foot Locker
16 Los Angeles	5/7/2021 1:00:00 AM	505		38 Men's Street Footwear	West	Kohl's
17 San Francisco	1/25/2021 12:00:00 AM	205		42 Men's Athletic Footwear	West	West Gear
18 Charleston	8/6/2021 1:00:00 AM	984		58 Women's Apparel	Southeast	Foot Locker
19 Salt Lake City	5/12/2021 1:00:00 AM	2750		25 Women's Athletic Footwear	West	West Gear
20 Des Moines	9/9/2021 1:00:00 AM	288		30 Men's Athletic Footwear	Midwest	Foot Locker
21 Indianapolis	8/11/2021 1:00:00 AM	3300		30 Men's Athletic Footwear	Midwest	West Gear
22						

Fig.6: Data loaded to Power BI using Coupler.IO

Here we are using Power BI for visualizing the dashboards. Here we are using 6 different visualization methods that give more clarity about the Sales of Adidas. The detailed explanation is given below.

- 1. Card:** This visualization is used to find the total sales, Total profit, and Total units sold.
- 2. Slicer:** This is used to filter the region-based visualization. If we select the Midwest, it shows the visualizations of that region.
- 3. Clustered bar chart:** This Visualization shows the Sales by category and Sales by Method.
- 4. Stacked area chart:** This Visualization shows the Total Sales by Month and Year & Total Profit by Month and Year.
- 5. Donut chart:** This Visualization illustrates the percentage of Units Sold by Product.
- 6. Map:** This visualization depicts the Sum of Total Sales by state.

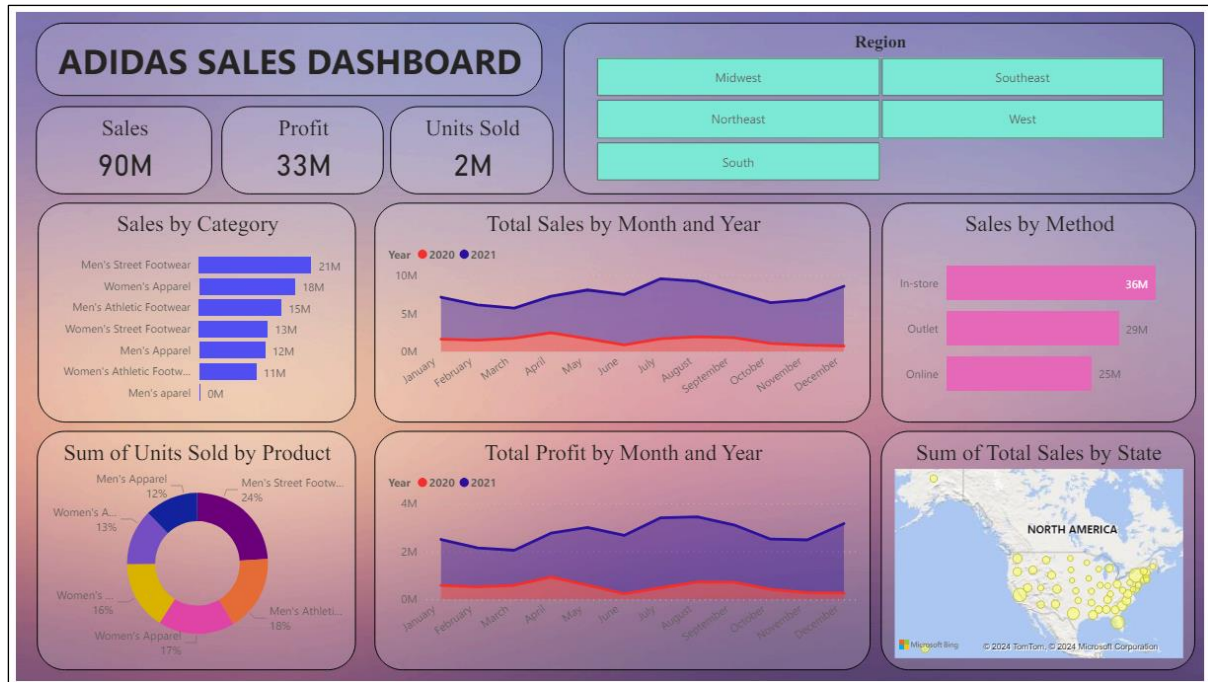


Fig.7: Adidas Sale Dashboard

Figure 7 represents the Adidas sale dashboard in Power BI. In this dashboard, we can understand about the total sales, profit, quantity of sold products, etc. By using this dashboard, it is easy to understand the information regarding Adidas sales.

VII. Conclusion

Based on our business strategies for expanding Adidas sales worldwide, we have effectively implemented them using business intelligence and business analytics solutions. Here we used Power BI to understand and demonstrate the sales through visualization. HubSpot CRM is used for centralizing customer information, managing meetings, and handling other functions inside the company. By implementing new ideas into action that will complement current market developments towards customization and sustainability, Adidas will be positioned as a customer-focused and forward-thinking brand in the competitive clothing and footwear sector, which will ultimately boost sales and customer engagement.

VIII. Reference

- [1] A. N. Parahita, I. Eitiveni, D. Nurchahyo, M. Efendi, R. Shafarina and A. P. Aristio, "Customer Relationship Management System Implementation Process and its Critical Success Factors: A Case Study," 2021 International Conference on Advanced Computer Science and Information Systems (ICACSIS), Depok, Indonesia, 2021, pp. 1-7, [Online]. Available:10.1109/ICACSIS53237.2021.9631314.[Accessedon:May12,202]
- [2]V.S.Khatuwal and D.Puri,"Business Intelligence Tools for Dashboard Development,"2022 3rd International Conference on Intelligent Engineering and Management(ICIEM),London,2022,pp.128-131,[Online].Available: 10.1109/ICIEM54221.2022.9853086.[Accessed on :May 13,2024]
- [3]Lavalle, A.Mate,J.Trujillo and S. Rizzi, "Visualization Requirements for Business intelligence Analytics: A Goal-Based, Iterative Framework,"2019 IEEE 27th International Requirements Engineering Conference (RE),Jeju,Korea(South),2019,pp.109119,[Online]Available:10.1109/RE.2019.00022.[Accessed on:May 14,2024]

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