

ShopNest Store Power BI Project

Project Overview:

ShopNest Store is a leading department store in the e-commerce marketplaces in Portugal. This project aims to deliver actionable insights for ShopNest, providing a comprehensive view of sales, customer behaviour, and operational efficiency through a Power BI dashboard and accompanying report. By addressing specific analytical questions, the project aims to empower strategic decision-making and performance optimization.

Insights on ShopNest Store Project:

By addressing these tasks, the project aims to deliver actionable insights for ShopNest, providing a comprehensive view of sales, customer behaviour, and operational efficiency. The Power BI dashboard and accompanying report will serve as valuable tools for strategic decision-making and performance optimization.

Data Tables:

This project has 9 datasets and the descriptions are below

Customers_dataset:

Columns	Description
Customer_id	Key to the orders dataset. Each order has a unique customer_id.
Customer_zip_code	First five digits of customer zip code.
Customer_city	Customer city name.
Customer_state	Customer state.

Geolocation_dataset:

Columns	Description
Geolocation_zip_code	First 5 digits of zip code
Geolocation_lat	Latitude
Geolocation_lng	Longitude
Geolocation_city	City name
Geolocation_state	State

Order_items_dataset:

Columns	Description
Order_id	Order unique identifier
Order_item_id	Sequential number identifying number of items included in the same order.
Product_id	Product unique identifier
Seller_id	Seller unique identifier
Shipping_limit_date	Shows the seller shipping limit date for handling the order over to the logistic partner.
Price	Item price
Freight_value	Item freight value item

Order_payments_dataset:

Columns	Description
Order_id	Unique identifier of an order.
Payment_sequential	A customer may pay an order with more than one payment method.
Payment_type	Method of payment chosen by the customer.
Payment_installments	Number of installments chosen by the customer.
Payment_value	Transaction value

Order_reviews_dataset:

Columns	Description
Review_id	Unique review identifier.
Order_id	Unique order identifier.
Review_score	Note ranging from 1 to 5 given by the customer on a satisfaction survey.
Review_comment_title	Comment title from the review left by the customer.
Review_comment_message	Comment message from the review left by the customer.
Review_creation_date	Shows the date in which the satisfaction survey was sent to the customer.
Review_answer_timestamp	Shows satisfaction survey answer timestamp.

Orders_dataset :

Columns	Description
Order_id	Unique identifier of the order.
Customer_id	Key to the customer dataset. Each order has a unique customer_id.
Order_status	Reference to the order status (delivered, shipped, etc).
Order_purchase_timestamp	Shows the purchase timestamp.
Order_approved_at	Shows the payment approval timestamp.
Order_delivered_carrier_date	Shows the order posting timestamp. When it was handled to the logistic partner.
Order_delivered_customer_date:	Shows the actual order delivery date to the customer.
Order_estimated_delivery_date:	Shows the estimated delivery date that was informed to customer at the purchase moment.

Products_dataset :

Columns	Description
Product_id	Unique product identifier.
Product_category_name	Root category of product.
Product_name_length	Number of characters extracted from the product name.
Product_description_length:	Number of characters extracted from the product description.
Product_photos_qty	Number of product published photos.
Product_weight_g	Product weight measured in grams.
Product_length_cm	Product length measured in centimeters.
Product_height_cm	Product height measured in centimeters.
Product_width_cm	Product width measured in centimeters.

Sellers_dataset :

Columns	Description
Seller_id	Seller unique identifier.
Seller_zip_code_prefix:	First 5 digits of seller zip code.
Seller_city:	Seller city name.
Seller_state:	Seller state.

Product_Categories :

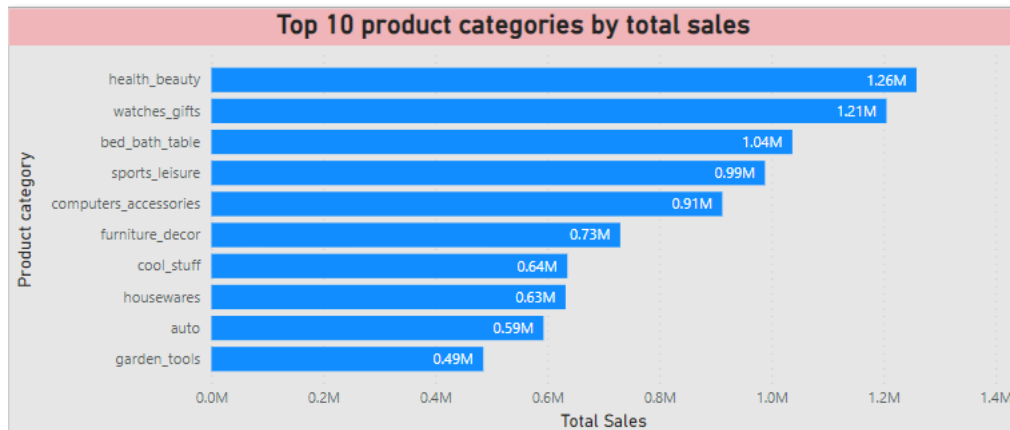
Columns	Description
Product_category_name	Category name in Portuguese
Product_category_name_english	Category name in English

Analysis and Visualizations:

Top Categories by Total Price:

Categories are taken from the product_category table, followed up by taking the sum of sales from price column in order_items table. However, the sum of sales are sorted in descending order and displayed the top 10 categories only.

In the below chart, it represents the top 10 product categories by total sales.



Delayed Orders Analysis:

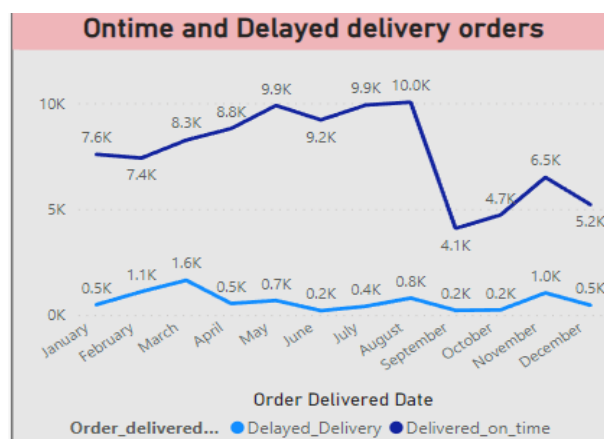
An order is considered delayed if the actual delivery date is later than the estimated delivery date, for which a measure was created and then classified under ontime or a delayed order. And the sum of delayed orders against the product_category is represented below which are on the top 30 position.

Delayed Order Analysis	
product_category_name_english	Delayed_Order_count
bed_bath_table	920
health_beauty	858
furniture_decor	688
sports_leisure	625
computers_accessories	594
watches_gifts	485
housewares	441
telephony	369
auto	343
garden_tools	340
toys	299
electronics	266
baby	262
cool_stuff	251
perfumery	245
stationery	198
office_furniture	149
fashion_bags_accessories	124
pet_shop	118
consoles_games	85
construction_tools_construction	74
luggage_accessories	58
musical_instruments	56
home_appliances	51
food	49
home_construction	49
audio	46
home_comfort	44
furniture_living_room	39
small_appliances	39
Total	8165

Monthly Comparison of Delayed and On-Time Orders:

To represents the comparison between the orders delivered on time vs the order that were delayed to deliver to the customers across months, each order is termed under ontime or a delayed delivery using measures and legends.

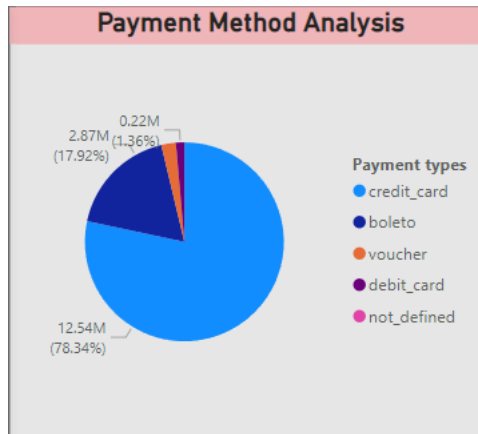
Under orders table a column is calculated to get the difference between the delivered time and estimated delivery time, from which order is classified as a delayed or ontime one under delivery_status column



Payment Method Analysis:

Below is the representation of different payment methods used by customers, which was derived from the order_payments table by taking payment type and its value.

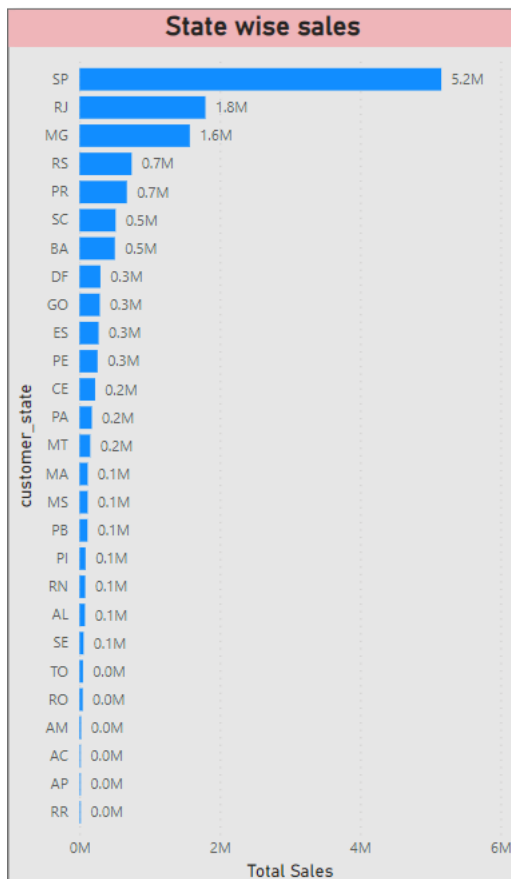
Credit Card is at the top contribution of 78% and the least stands at 1% where payments are through Debit Card.



State-wise Sales Analysis:

Sales were analysed based on the purchased state, for the same customer_state is taken from the customers table and their respective sales were taken by the sum of price column under order_items table.

Below is the representation of total sales based on the State wise bifurcation.



Seasonal Sales Patterns:

Classification of month and year are taken from the order_purchase_time which is under orders table, followed up by taking the sum of price value as total sales generated from order_items table.

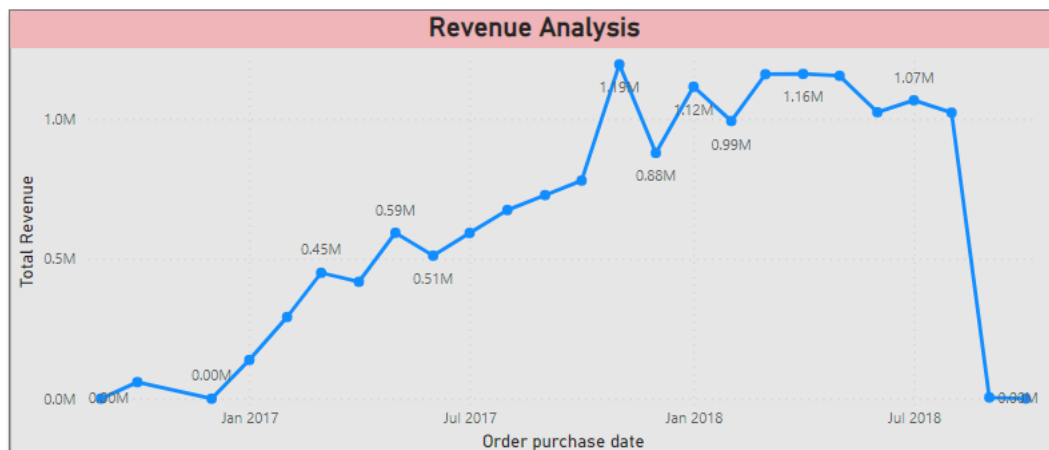
Below line chart represents the seasonal patterns of sales data over the year.



Revenue Analysis:

Classification of month and year are taken from the order_purchase_time which is under orders table, followed up by taking the sum of payment value as revenue generated from order_payments table.

Below is the visual of total revenue generated by ShopNest Store representation over the time.



Conclusion:

The ShopNest Store Capstone Power BI dashboard and report offer a comprehensive analysis, uncovering key insights into top-selling product categories, order delays, payment methods, regional sales, seasonal patterns, and revenue trends, empowering strategic decision-making for business optimization.

By- DIVYA GATTUGARI