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# Pizza Sales Dashboard for 2015

## About the project

Pizza Sales is a fictional company offering customers Pizza. I followed this dashboard project online (please see: Data Tutorials, 2023). Available data for the report is from January 15th, 2015 - December 15th, 2015 (11 months).

### Dataset

The .csv sample was loaded into Microsoft SQL Server Management Studio. Next, the dataset was checked for appropriate data types of each column and null values.

Potential Stakeholders could include Sales or Pricing teams. Therefore, the objectives of the dashboard are to visualise Sales and Order Trends by daytime and month. Specifically, the interactive dashboard reflects the main KPIs on a hourly, daily and monthly basis in year 2015. Furthermore charts show how pizza by pizza type, category and size perform in relation to revenue and orders.

## Data Validation using SQL

### Key Performance Indicator (KPI) Definition using SQL

Data reflected in the PowerBi Dashboard is in line with SQL query outcomes. This ensures data is valid.

The following KPIs, definitions and SQL queries were used:

#### Total Orders

The total number of pizza orders placed.

SELECT COUNT(DISTINCT(order\_id) AS total\_pizza\_orders FROM [Pizza Database].[dbo].[pizza\_sales]

COUNT(DISTINCT(order\_id)

A screenshot of a computer

Description automatically generated

#### Average number of pizzas per order

Is the average number of ordered pizzas per order (Total pizzas sold / Total Pizza Orders).

SELECT SUM(quantity) AS DECIMAL(10,2)) / COUNT(DISTINCT(order\_id) DECIMAL(10,2)) AS average\_pizzas\_per order FROM [Pizza Database].[dbo].[pizza\_sales]

A close-up of a number

Description automatically generated

#### Total of sold pizzas

Is the sum of sold pizzas.

SELECT SUM(quantity) AS total\_sold\_pizzas

FROM [Pizza Database].[dbo].[pizza\_sales]

A close-up of a receipt

Description automatically generated

#### Average order value

Is defined as the average value spent per customer

SELECT SUM(total\_price) / COUNT(DISTINCT(order\_id) as \_average\_order\_value

FROM [Pizza Database].[dbo].[pizza\_sales]

A close-up of numbers

Description automatically generated

#### Total Revenue

Is the sum of the total price of all ordered pizzas (Order price )

SELECT SUM(total\_price) AS Total\_Revenue FROM [Pizza Database].[dbo].[pizza\_sales]

A screenshot of a computer

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### Charts Definition using SQL

#### Hourly trend for total pizza orders

The daily trend for total pizza orders throughout the day is displayed with a line chart. Using this visual allows to identify peak times of order activity.

SELECT DATEPART(hour, order\_time) as order\_hour,

COUNT(DISTINCT order\_id) AS total\_orders

FROM [Pizza Database].[dbo].[pizza\_sales]

GROUP BY DATEPART(hour, order\_time)

ORDER BY order\_hour

A screenshot of a table

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#### Daily trend for total pizza orders

SELECT DATENAME(DW, order\_date) AS order\_day, COUNT(DISTINCT order\_id) AS total\_orders

FROM [Pizza Database].[dbo].[pizza\_sales]

GROUP BY DATENAME(DW, order\_date)

A screenshot of a computer

Description automatically generated

#### Monthly Trend for Orders

select DATENAME(MONTH, order\_date) as Month\_Name, COUNT(DISTINCT order\_id) as Total\_Orders

FROM [Pizza Database].[dbo].[pizza\_sales]

GROUP BY DATENAME(MONTH, order\_date)

A screenshot of a calendar

Description automatically generated

#### % of Sales by Pizza category: To see the sales distribution of pizza categories

This chart provides with insights into each categories' distribution to the total sales as well as popularity.

SELECT

pizza\_category,

CAST(SUM(total\_price) AS DECIMAL(10, 2)) AS total\_revenue,

CAST(SUM(total\_price) \* 100.0 / (SELECT SUM(total\_price) FROM [Pizza Database].[dbo].[pizza\_sales]) AS DECIMAL(10, 2)) AS percentage\_pizza\_category

FROM

[Pizza Database].[dbo].[pizza\_sales]

GROUP BY

pizza\_category;

A screenshot of a graph

Description automatically generated

#### % of Sales by Pizza Size: To see the sales distribution of pizza size

SELECT

pizza\_size,

CAST(SUM(total\_price) AS DECIMAL(10, 2)) AS total\_revenue,

(CAST(SUM(quantity) AS DECIMAL(10, 2)) / SUM(SUM(quantity)) OVER ()) \* 100 AS percentage\_pizza\_size

FROM

[Pizza Database].[dbo].[pizza\_sales]

GROUP BY

pizza\_size

ORDER BY

pizza\_size;

A screenshot of a graph

Description automatically generated

1. Total Pizzas Sold by Pizza Category

SELECT pizza\_category,

SUM(quantity) AS total\_quantity\_sold

FROM

[Pizza Database].[dbo].[pizza\_sales]

GROUP BY

pizza\_category

ORDER BY

pizza\_category DESC;

A screenshot of a computer

Description automatically generated

#### Top 5 Pizzas by Revenue

SELECT TOP 5

pizza\_name,

SUM(total\_price) AS revenue

FROM

[Pizza Database].[dbo].[pizza\_sales]

GROUP BY

pizza\_name

ORDER BY

revenue DESC;

A menu of a pizza

Description automatically generated

#### Top 5 Pizzas by Quantity

SELECT TOP 5

pizza\_name,

SUM(quantity) AS total\_pizza\_sold

FROM

[Pizza Database].[dbo].[pizza\_sales]

GROUP BY

pizza\_name

ORDER BY

total\_pizza\_sold DESC;

A screenshot of a menu

Description automatically generated

#### Top 5 Pizzas by Total Orders

SELECT Top 5 pizza\_name, COUNT(DISTINCT order\_id) AS total\_orders

FROM [Pizza Database].[dbo].[pizza\_sales]

GROUP BY pizza\_name

ORDER BY Total\_Orders DESC;

A screenshot of a menu

Description automatically generated

## Data Manipulation using Power Query

Before building the visuals for the dashboard, data modifications are made for a better readability.

*Example:*

- **pizza\_size**: Write out size names by replacing them with the full-size name. Example: M -> Medium

- **order\_date**: the day name and number as well as the month name and number were extracted.

*Example:*

A screenshot of a calendar

Description automatically generated

### 3.1. Building KPIs using DAX Functions

The following KPis are created to calculate the following KPIs

(1) Total Revenue = SUM(pizza\_sales[total price])

(2) Total Orders = DISTINCTCOUNT(pizza\_sales[order\_id])

(3) Average Order Value = [Total Revenue] / [Total Orders]

(4) Total Pizzas sold = SUM(pizza\_sales[quantity])

(5) Average Pizzas per order = [Total Pizzas sold] [Total Orders]

## PowerBi Dashboard

### Sales Dashboard

A screenshot of a graph

Description automatically generated

Firstly, the sales dashboard shows the overall performance of pizza sales. The donut chart “*By pizza size”* shows that *Large* has the highest share of pizza sales with approx. 46%, followed by *Medium* size with a share of 30.5%. The Classic (approx. 27%) and Supreme (25.5%) pizza categories have the highest share of sales.

These findings could be important for sales teams. They show which pizzas are sold the most. This could be a starting point for further analyses to determine which factors determine sales success and how this can be optimised.

### Orders Dashboard

A screenshot of a graph

Description automatically generated

The second dashboard shows information on pizza orders.

The line charts provide insight into peak order times. "*By day and time*" shows that the peak times with high order volumes are Friday, and Monday at 12 pm and Thursday, Tuesday and Wednesday between 12 pm and 1 pm. In July 1935 orders were placed, while 1646 orders were received in October. This information could be valuable for incorporating seasonal fluctuations into staff and sales planning.

### References

Data Tutorials (2023): Power BI & SQL Project | Data Analyst Portfolio | End to End | Beginner to Expert | #powerbi #sql; https://www.youtube.com/watch?v=V-s8c6jMRN0&t=676s