Pizza Bell

Pizza Sales Dashboard creation

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STEP 1

In this presentation report, I detail the entire ETL process and outline the steps I followed to create it.

Steps to be involved ---
ETL - Power Query
* create a proper ETL where we perform following things --
1 - Categorized the data into Dim and Fact tables
2 - Perform some transformation as like data cleaning, error handling, handle nulls, set proper data type
3 - Once the required transform done, we move towards load the data into SQL.

Database - Microsoft SQL Server
Create a data base for Pizza dashboard in SQL which involve creation of required tables and load the clean data.

Visualization - Power Bi
* Load the data into power bi and perform the data modelling and solve the business task by writing Dax (Data analysis Expression) and finally perform the data visualization.
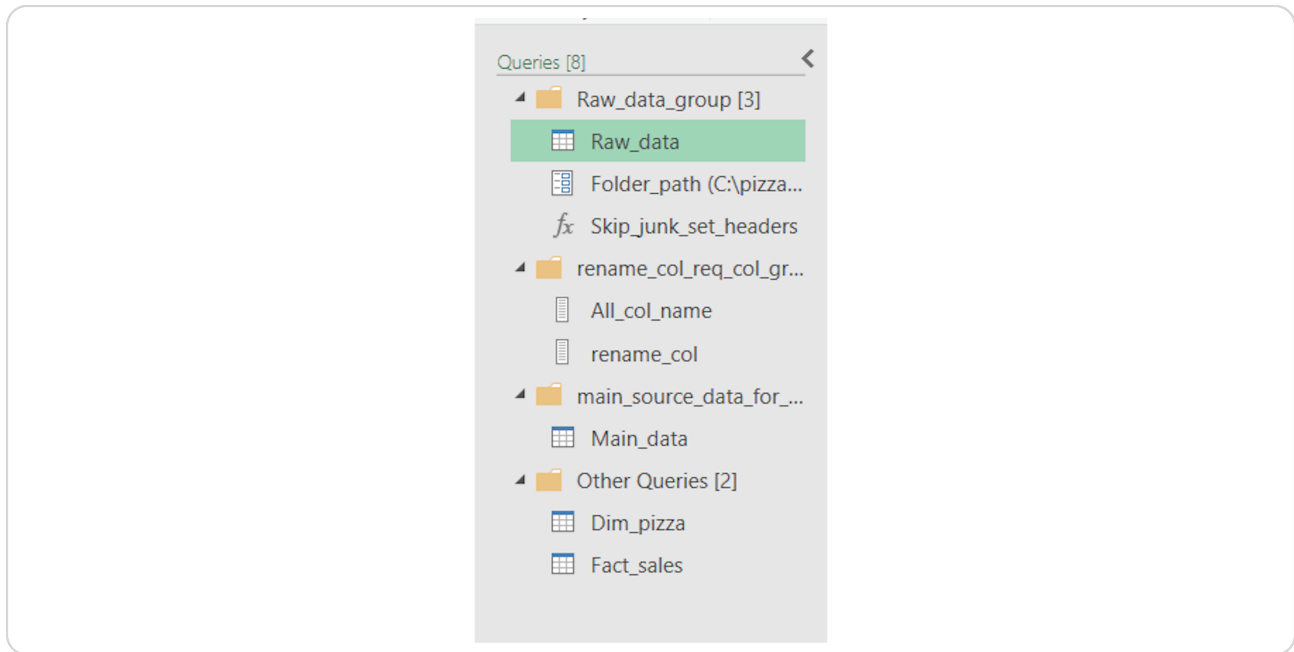
STEP 2

Raw Data in a CSV formatted File.

pizza_id	order_id	pizza_name_id	quantity	order_date	order_time	unit_price	total_price	pizza_size	pizza_category	pizza_ingredients	pizza_name
1	1	hawaiian_m	1	01-01-2015	11.38.36	13.25	13.25	M	Classic	Sliced Ham, Pineapple, Mozzarella Cheese	The Hawaiian Pizza
2	2	classic_dlx_m	1	01-01-2015	11.57.40	16	16	M	Classic	Pepperoni, Mushrooms, Red Onions, Red Peppers, Bacon	The Classic Deluxe Pizza
3	2	five_cheese_l	1	01-01-2015	11.57.40	18.5	18.5	L	Veggie	Mozzarella Cheese, Provolone Cheese, Smoked Gouda Cheese, Romano Cheese, Blue Cheese, Garlic	The Five Cheese Pizza
4	2	ital_supr_l	1	01-01-2015	11.57.40	20.75	20.75	L	Supreme	Calabrese Salami, Capocollo, Tomatoes, Red Onions, Green Olives, Garlic	The Italian Supreme Pizza
5	2	mexicana_m	1	01-01-2015	11.57.40	16	16	M	Veggie	Tomatoes, Red Peppers, Jalapeno Peppers, Red Onions, Cilantro, Corn, Chipotle Sauce, Garlic	The Mexicana Pizza
6	2	thai_ckn_l	1	01-01-2015	11.57.40	20.75	20.75	L	Chicken	Chicken, Pineapple, Tomatoes, Red Peppers, Thai Sweet Chilli Sauce	The Thai Chicken Pizza
7	3	ital_supr_m	1	01-01-2015	12.12.28	16.5	16.5	M	Supreme	Calabrese Salami, Capocollo, Tomatoes, Red Onions, Green Olives, Garlic	The Italian Supreme Pizza
8	3	prsc_argla_l	1	01-01-2015	12.12.28	20.75	20.75	L	Supreme	Prosciutto di San Daniele, Arugula, Mozzarella Cheese	The Prosciutto and Arugula Pizza
9	4	ital_supr_m	1	01-01-2015	12.16.31	16.5	16.5	M	Supreme	Calabrese Salami, Capocollo, Tomatoes, Red Onions, Green Olives, Garlic	The Italian Supreme Pizza
10	5	ital_supr_m	1	01-01-2015	12.21.30	16.5	16.5	M	Supreme	Calabrese Salami, Capocollo, Tomatoes, Red Onions, Green Olives, Garlic	The Italian Supreme Pizza
11	6	bbq_ckn_s	1	01-01-2015	12.29.36	12.75	12.75	S	Chicken	Barbecued Chicken, Red Peppers, Green Peppers, Tomatoes, Red Onions, Barbecue Sauce	The Barbecue Chicken Pizza
12	6	the_greek_s	1	01-01-2015	12.29.36	12	12	S	Classic	Kalamata Olives, Feta Cheese, Tomatoes, Garlic, Beef Chuck Roast, Red Onions	The Greek Pizza
13	7	spinach_supr_s	1	01-01-2015	12.50.37	12.5	12.5	S	Supreme	Spinach, Red Onions, Pepperoni, Tomatoes, Artichokes, Kalamata Olives, Garlic, Asiago Cheese	The Spinach Supreme Pizza
14	8	spinach_supr_s	1	01-01-2015	12.51.37	12.5	12.5	S	Supreme	Spinach, Red Onions, Pepperoni, Tomatoes, Artichokes, Kalamata Olives, Garlic, Asiago Cheese	The Spinach Supreme Pizza
15	9	classic_dlx_s	1	01-01-2015	12.52.01	12	12	S	Classic	Pepperoni, Mushrooms, Red Onions, Red Peppers, Bacon	The Classic Deluxe Pizza
16	9	green_garden_s	1	01-01-2015	12.52.01	12	12	S	Veggie	Spinach, Mushrooms, Tomatoes, Green Olives, Feta Cheese	The Green Garden Pizza
17	9	ital_cpcllo_l	1	01-01-2015	12.52.01	20.5	20.5	L	Classic	Capocollo, Red Peppers, Tomatoes, Goat Cheese, Garlic, Oregano	The Italian Capocollo Pizza
18	9	ital_supr_l	1	01-01-2015	12.52.01	20.75	20.75	L	Supreme	Calabrese Salami, Capocollo, Tomatoes, Red Onions, Green Olives, Garlic	The Italian Supreme Pizza
19	9	ital_supr_s	1	01-01-2015	12.52.01	12.5	12.5	S	Supreme	Calabrese Salami, Capocollo, Tomatoes, Red Onions, Green Olives, Garlic	The Italian Supreme Pizza
20	9	mexicana_s	1	01-01-2015	12.52.01	12	12	S	Veggie	Tomatoes, Red Peppers, Jalapeno Peppers, Red Onions, Cilantro, Corn, Chipotle Sauce, Garlic	The Mexicana Pizza
21	9	spicy_ital_l	1	01-01-2015	12.52.01	20.75	20.75	L	Supreme	Capocollo, Tomatoes, Goat Cheese, Artichokes, Peperoncini verdi, Garlic	The Spicy Italian Pizza
22	9	spin_pesto_l	1	01-01-2015	12.52.01	20.75	20.75	L	Veggie	Spinach, Artichokes, Tomatoes, Sun-dried Tomatoes, Garlic, Pesto Sauce	The Spinach Pesto Pizza
23	9	veggie_veg_s	1	01-01-2015	12.52.01	12	12	S	Veggie	Mushrooms, Tomatoes, Red Peppers, Green Peppers, Red Onions, Zucchini, Spinach, Garlic	The Vegetables + Vegetables Pizza
24	10	mexicana_l	1	01-01-2015	13.00.15	20.25	20.25	L	Veggie	Tomatoes, Red Peppers, Jalapeno Peppers, Red Onions, Cilantro, Corn, Chipotle Sauce, Garlic	The Mexicana Pizza
25	10	southw_ckn_l	1	01-01-2015	13.00.15	20.75	20.75	L	Chicken	Chicken, Tomatoes, Red Peppers, Red Onions, Jalapeno Peppers, Corn, Cilantro, Chipotle Sauce	The Southwest Chicken Pizza
26	11	bbq_ckn_l	1	01-01-2015	13.02.59	20.75	20.75	L	Chicken	Barbecued Chicken, Red Peppers, Green Peppers, Tomatoes, Red Onions, Barbecue Sauce	The Barbecue Chicken Pizza
27	11	cali_ckn_l	1	01-01-2015	13.02.59	20.75	20.75	L	Chicken	Chicken, Artichoke, Spinach, Garlic, Jalapeno Peppers, Fontina Cheese, Gouda Cheese	The California Chicken Pizza
28	11	cali_ckn_m	1	01-01-2015	13.02.59	16.75	16.75	M	Chicken	Chicken, Artichoke, Spinach, Garlic, Jalapeno Peppers, Fontina Cheese, Gouda Cheese	The California Chicken Pizza
29	11	pepperoni_l	1	01-01-2015	13.02.59	15.25	15.25	L	Classic	Mozzarella Cheese, Pepperoni	The Pepperoni Pizza
30	12	cali_ckn_l	1	01-01-2015	13.04.41	20.75	20.75	L	Chicken	Chicken, Artichoke, Spinach, Garlic, Jalapeno Peppers, Fontina Cheese, Gouda Cheese	The California Chicken Pizza
31	12	cali_ckn_s	1	01-01-2015	13.04.41	12.75	12.75	S	Chicken	Chicken, Artichoke, Spinach, Garlic, Jalapeno Peppers, Fontina Cheese, Gouda Cheese	The California Chicken Pizza
32	12	ckn_pesto_l	1	01-01-2015	13.04.41	20.75	20.75	L	Chicken	Chicken, Tomatoes, Red Peppers, Spinach, Garlic, Pesto Sauce	The Chicken Pesto Pizza
33	12	ital_supr_m	1	01-01-2015	13.04.41	16.5	16.5	M	Supreme	Calabrese Salami, Capocollo, Tomatoes, Red Onions, Green Olives, Garlic	The Italian Supreme Pizza
34	13	mexicana_l	1	01-01-2015	13.11.55	20.25	20.25	L	Veggie	Tomatoes, Red Peppers, Jalapeno Peppers, Red Onions, Cilantro, Corn, Chipotle Sauce, Garlic	The Mexicana Pizza

STEP 3

Power Query {M – Language}

Here we use Power query for extraction and transformation the raw data using M – Language

STEP 4

M – Language

• Here are the M – Language that I use to create a proper data pipeline and transformation
--

1 –**Begin by cleaning the initial data and setting the headers for the raw dataset.**

```
let
Source = Table.TransformColumns(
Folder.Files(Folder_path),{{"Content",Csv.Document}}),
#"Added Custom" = Table.AddColumn(Source,
"clean_tab",
each
Skip_junk_set_headers([Content])
)
in
```
• #"Added Custom"

2 – **Here we rename the columns so that all related columns append in a correct manner in future whenever new data added.**

```
let
```

```
Source = Excel.CurrentWorkbook(){[Name="All_col_name"]}[Content],
#"Changed Type" = Table.TransformColumnTypes(Source,{{"All_col_name", type text},
{"Rename", type text}, {"keep_col", Int64.Type}}),
#"Filtered Rows" = Table.SelectRows(#"Changed Type", each [keep_col] <> null and
[keep_col] <> ""),
#"Removed Columns" = Table.RemoveColumns(#"Filtered Rows",{"keep_col"}),
rename_col_list = Table.ToRows(#"Removed Columns")
in
rename_col_list
```

3 – **This is the final clean dataset that is now ready to be loaded into an SQL database.**

```
let
Source = Table.TransformColumns(
Folder.Files(Folder_path),{{"Content",Csv.Document}}),
#"Added Custom" = Table.AddColumn(Source,
"clean_tab",
each
Table.RenameColumns(
Skip_junk_set_headers([Content]),rename_col,MissingField.Ignore )
),
req_col_list = List.Transform(rename_col, each _{1}),
rename_req_col_set = Table.Combine(#"Added Custom"[clean_tab],req_col_list),
List_of_all_col = Table.ColumnNames(rename_req_col_set),
#"Removed Duplicates" = Table.Distinct(rename_req_col_set,List_of_all_col)
in
#"Removed Duplicates"
```

STEP 5

After the deep understanding of the data set, we categorized the data into two category – 1 – Dimensional Table 2 – Factual Table

STEP 6

Dim Table

Dim Pizza

unit_price	pizza_size	pizza_category	pizza_ingredients	pizza_name
20.75	L	Chicken	Barbecued Chicken, Red Peppers, Green Peppers, Tomatoes, Red Onions, Barbecue Sauce	The Barbecue Chicken Pizza
16.75	M	Chicken	Barbecued Chicken, Red Peppers, Green Peppers, Tomatoes, Red Onions, Barbecue Sauce	The Barbecue Chicken Pizza
12.75	S	Chicken	Barbecued Chicken, Red Peppers, Green Peppers, Tomatoes, Red Onions, Barbecue Sauce	The Barbecue Chicken Pizza
12	S	Classic	Bacon, Pepperoni, Italian Sausage, Chorizo Sausage	The Big Meat Pizza
23.65	S	Supreme	Brie Carre Cheese, Prosciutto, Caramelized Onions, Pears, Thyme, Garlic	The Brie Carre Pizza
20.25	L	Supreme	?duja Salami, Pancetta, Tomatoes, Red Onions, Friggitello Peppers, Garlic	The Calabrese Pizza
16.25	M	Supreme	?duja Salami, Pancetta, Tomatoes, Red Onions, Friggitello Peppers, Garlic	The Calabrese Pizza
12.25	S	Supreme	?duja Salami, Pancetta, Tomatoes, Red Onions, Friggitello Peppers, Garlic	The Calabrese Pizza
20.75	L	Chicken	Chicken, Artichoke, Spinach, Garlic, Jalapeno Peppers, Fontina Cheese, Gouda Cheese	The California Chicken Pizza
16.75	M	Chicken	Chicken, Artichoke, Spinach, Garlic, Jalapeno Peppers, Fontina Cheese, Gouda Cheese	The California Chicken Pizza
12.75	S	Chicken	Chicken, Artichoke, Spinach, Garlic, Jalapeno Peppers, Fontina Cheese, Gouda Cheese	The California Chicken Pizza
20.75	L	Chicken	Chicken, Red Onions, Red Peppers, Mushrooms, Asiago Cheese, Alfredo Sauce	The Chicken Alfredo Pizza
16.75	M	Chicken	Chicken, Red Onions, Red Peppers, Mushrooms, Asiago Cheese, Alfredo Sauce	The Chicken Alfredo Pizza
12.75	S	Chicken	Chicken, Red Onions, Red Peppers, Mushrooms, Asiago Cheese, Alfredo Sauce	The Chicken Alfredo Pizza
20.75	L	Chicken	Chicken, Tomatoes, Red Peppers, Spinach, Garlic, Pesto Sauce	The Chicken Pesto Pizza
16.75	M	Chicken	Chicken, Tomatoes, Red Peppers, Spinach, Garlic, Pesto Sauce	The Chicken Pesto Pizza
12.75	S	Chicken	Chicken, Tomatoes, Red Peppers, Spinach, Garlic, Pesto Sauce	The Chicken Pesto Pizza
20.5	L	Classic	Pepperoni, Mushrooms, Red Onions, Red Peppers, Bacon	The Classic Deluxe Pizza
16	M	Classic	Pepperoni, Mushrooms, Red Onions, Red Peppers, Bacon	The Classic Deluxe Pizza
12	S	Classic	Pepperoni, Mushrooms, Red Onions, Red Peppers, Bacon	The Classic Deluxe Pizza
18.5	L	Veggie	Mozzarella Cheese, Provolone Cheese, Smoked Gouda Cheese, Romano Cheese, Blue Cheese, Garlic	The Five Cheese Pizza
17.95	L	Veggie	Ricotta Cheese, Gorgonzola Piccante Cheese, Mozzarella Cheese, Parmigiano Reggiano Cheese, Garlic	The Four Cheese Pizza
14.75	M	Veggie	Ricotta Cheese, Gorgonzola Piccante Cheese, Mozzarella Cheese, Parmigiano Reggiano Cheese, Garlic	The Four Cheese Pizza
20.25	L	Veggie	Spinach, Mushrooms, Tomatoes, Green Olives, Feta Cheese	The Green Garden Pizza
16	M	Veggie	Spinach, Mushrooms, Tomatoes, Green Olives, Feta Cheese	The Green Garden Pizza
12	S	Veggie	Spinach, Mushrooms, Tomatoes, Green Olives, Feta Cheese	The Green Garden Pizza

STEP 7

Fact Table

Fact Sales

pizza_id	pizza_name_id	order_id	order_date	order_time	quantity	sales
1	hawaiian_m	1	01-01-2015	11:38:36	1	13.25
2	classic_dlx_m	2	01-01-2015	11:57:40	1	16
3	five_cheese_l	2	01-01-2015	11:57:40	1	18.5
4	ital_supr_l	2	01-01-2015	11:57:40	1	20.75
5	mexicana_m	2	01-01-2015	11:57:40	1	16
6	thai_ckn_l	2	01-01-2015	11:57:40	1	20.75
7	ital_supr_m	3	01-01-2015	12:12:28	1	16.5
8	prsc_argla_l	3	01-01-2015	12:12:28	1	20.75
9	ital_supr_m	4	01-01-2015	12:16:31	1	16.5
10	ital_supr_m	5	01-01-2015	12:21:30	1	16.5
11	bbq_ckn_s	6	01-01-2015	12:29:36	1	12.75
12	the_greek_s	6	01-01-2015	12:29:36	1	12
13	spinach_supr_s	7	01-01-2015	12:50:37	1	12.5
14	spinach_supr_s	8	01-01-2015	12:51:37	1	12.5

Creation of Database and tables in the Microsoft SQL server

here we write the SQL code in order to form the database and the table which are --

```
1 - Database Creation -
CREATE DATABASE Pizza_Sales_db;

2 - Creation of Table -

CREATE TABLE [Dim_pizza] (
[Pizza_name_id] varchar(50) ,
[unit_price] decimal(5,2) ,
[pizza_size] varchar(5),
[pizza_category] varchar(10),
[pizza_ingredients] varchar(200),
[Pizza_name] varchar(100),
PRIMARY KEY ([Pizza_name_id])
);
Create TABLE [Fact_sales] (
[pizza_id] int,
[pizza_name_id] varchar(50),
[order_id] int ,
[order_date] date ,
[order_time] time ,
[quantity] int ,
[sales] decimal(5,2),

CONSTRAINT [FK_Fact_sales.pizza_name_id]
FOREIGN KEY ([pizza_name_id])
REFERENCES [Dim_pizza]([Pizza_name_id])
);
```

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