CASE STUDY 2

PIZZA Data Set

COLLEGE PROJECT REPORT

AMIT

ROLL NO. 14

Department of

COMPUTER APPLICATIONS

UNITED UNIVERSITY

PRAYAGRAJ

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BONAFIDE CERTIFICATE

This is to certify that this project report entitled **"CASE STUDY 2 on PIZZA DATASET"** submitted to **UNITED UNIVERSITY PRAYAGRAJ,** is a Bonafide record of work done by "**AMIT** & **AYUSH KESARWANI** under my supervision from "**26th APRIL**" to "**5th MAY**".

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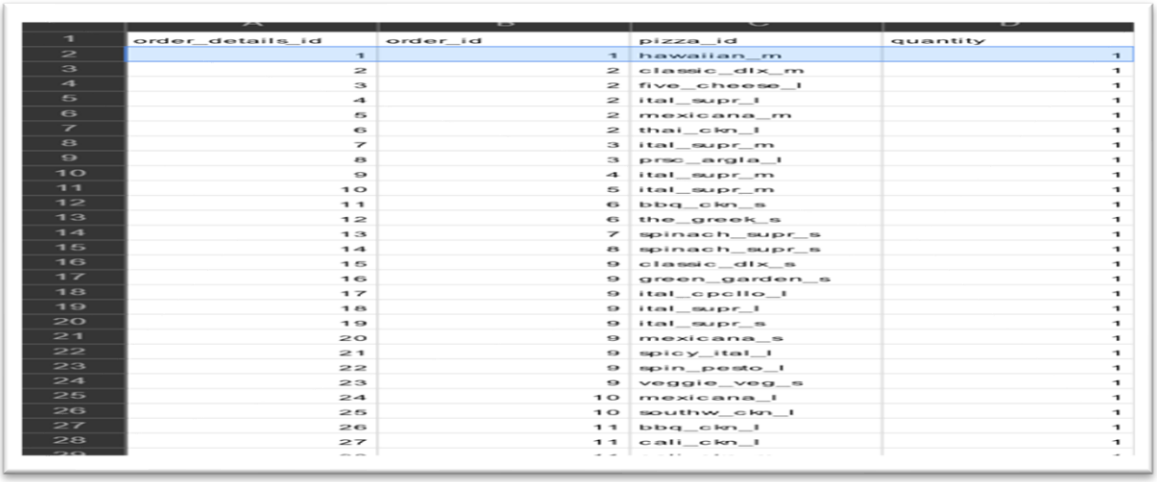
the "Data" you are using.

The "PIZZA Data set" data module in Cognos is a user-built data set that contains information on the Order details, orders, pizza type, pizzas.

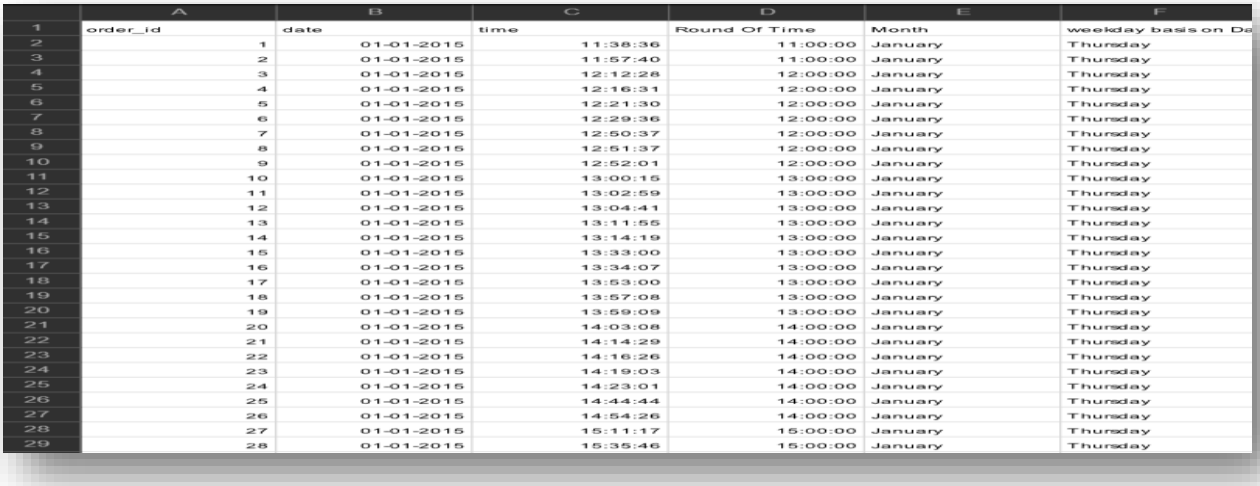
The data module consists of several data sets that are joined together to provide a comprehensive view of each dataset. Some of the key sets included in this module are:

1. **Order_details.csv:** This set contains general information about each dataset, including order detail id, pizza id, order id, quantity. The key fields in this table include:



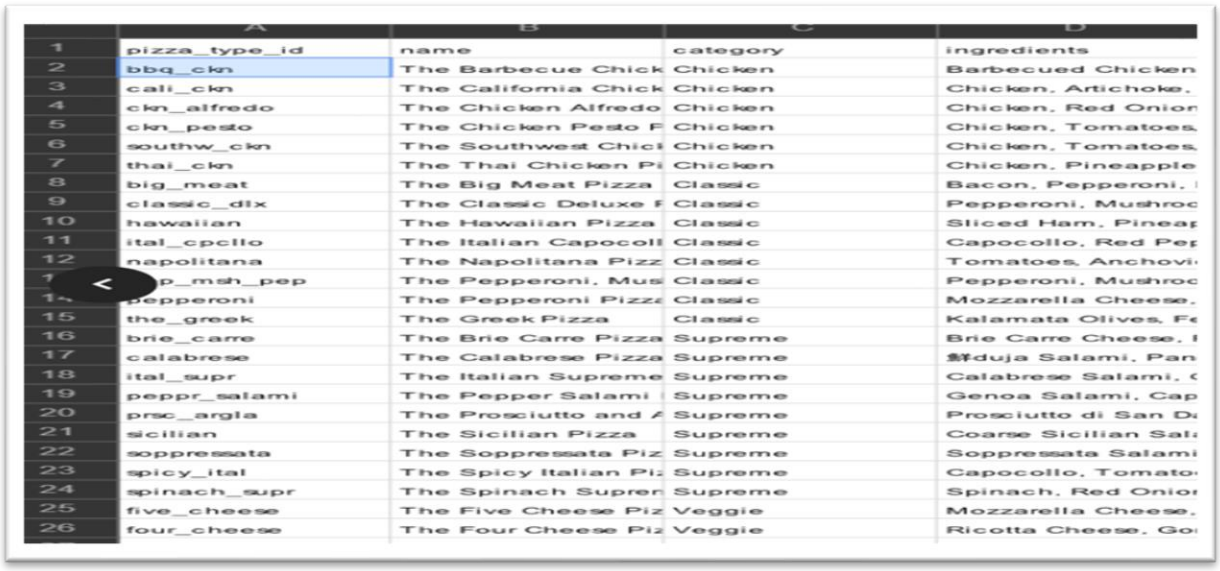
	order_details_id	order_id	pizza_id	quantity
2	1	1	hawaiian_m	1
3	2	2	classic_dlx_m	1
4	3	2	five_cheese_l	1
5	4	2	ital_supr_l	1
6	5	2	mexicana_m	1
7	6	2	thai_ckn_l	1
8	7	3	ital_supr_m	1
9	8	3	prsc_argla_l	1
10	9	4	ital_supr_m	1
11	10	5	ital_supr_m	1
12	11	6	bbq_ckn_s	1
13	12	6	the_greek_s	1
14	13	7	spinach_supr_s	1
15	14	8	spinach_supr_s	1
16	15	9	classic_dlx_s	1
17	16	9	green_garden_s	1
18	17	9	ital_cpclls_l	1
19	18	9	ital_supr_l	1
20	19	9	ital_supr_s	1
21	20	9	mexicana_s	1
22	21	9	spicy_ital_l	1
23	22	9	spin_pesto_l	1
24	23	9	veggie_veg_s	1
25	24	10	mexicana_l	1
26	25	10	southw_ckn_l	1
27	26	11	bbq_ckn_l	1
28	27	11	cali_ckn_l	1

2. **Order.csv:** This file contains information about order id, date, time, round of time, month, weekday on the basis of the day.



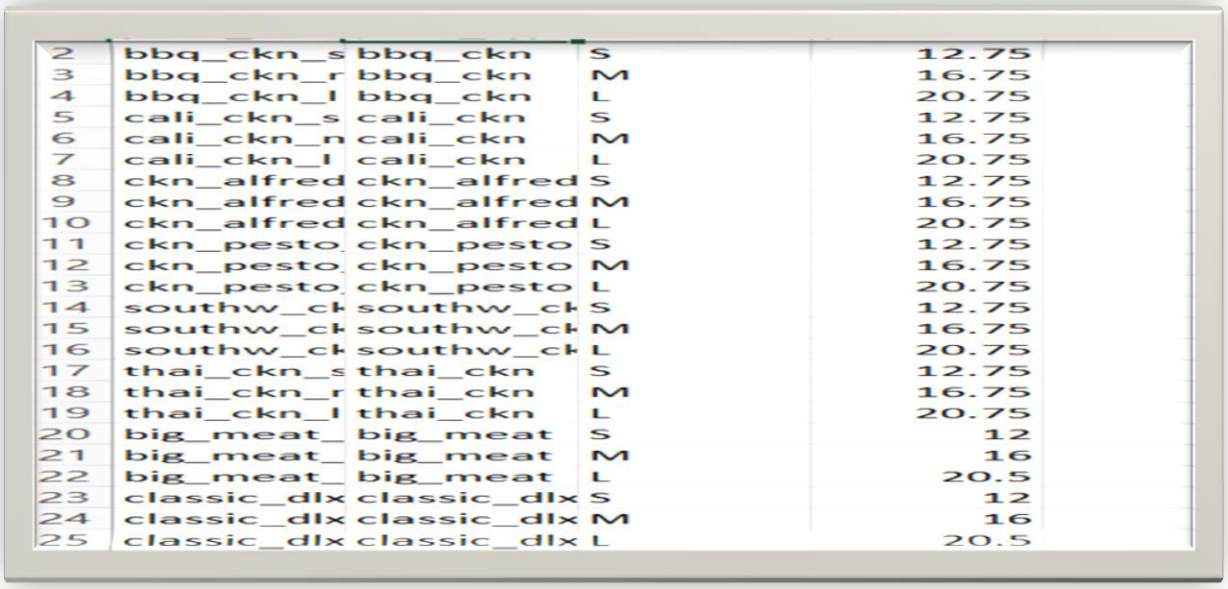
	order_id	date	time	Round Of Time	Month	weekday basis on Da
2	1	01-01-2015	11:38:36	11:00:00	January	Thursday
3	2	01-01-2015	11:57:40	11:00:00	January	Thursday
4	3	01-01-2015	12:12:28	12:00:00	January	Thursday
5	4	01-01-2015	12:16:31	12:00:00	January	Thursday
6	5	01-01-2015	12:21:30	12:00:00	January	Thursday
7	6	01-01-2015	12:29:36	12:00:00	January	Thursday
8	7	01-01-2015	12:50:37	12:00:00	January	Thursday
9	8	01-01-2015	12:51:37	12:00:00	January	Thursday
10	9	01-01-2015	12:52:01	12:00:00	January	Thursday
11	10	01-01-2015	13:00:15	13:00:00	January	Thursday
12	11	01-01-2015	13:02:59	13:00:00	January	Thursday
13	12	01-01-2015	13:04:41	13:00:00	January	Thursday
14	13	01-01-2015	13:11:55	13:00:00	January	Thursday
15	14	01-01-2015	13:14:19	13:00:00	January	Thursday
16	15	01-01-2015	13:33:00	13:00:00	January	Thursday
17	16	01-01-2015	13:34:07	13:00:00	January	Thursday
18	17	01-01-2015	13:53:00	13:00:00	January	Thursday
19	18	01-01-2015	13:57:08	13:00:00	January	Thursday
20	19	01-01-2015	13:59:09	13:00:00	January	Thursday
21	20	01-01-2015	14:03:08	14:00:00	January	Thursday
22	21	01-01-2015	14:14:29	14:00:00	January	Thursday
23	22	01-01-2015	14:16:26	14:00:00	January	Thursday
24	23	01-01-2015	14:19:03	14:00:00	January	Thursday
25	24	01-01-2015	14:23:01	14:00:00	January	Thursday
26	25	01-01-2015	14:44:44	14:00:00	January	Thursday
27	26	01-01-2015	14:54:26	14:00:00	January	Thursday
28	27	01-01-2015	15:11:17	15:00:00	January	Thursday
29	28	01-01-2015	15:35:46	15:00:00	January	Thursday

3. **PIZZA_type.csv**: This table contains information about pizza id, name, category, ingredients.



	A	B	C	D
1	pizza_type_id	name	category	ingredients
2	bbq_ckn	The Barbecue Chick	Chicken	Barbecued Chicken
3	cali_ckn	The California Chick	Chicken	Chicken, Artichoke,
4	ckn_alfredo	The Chicken Alfredo	Chicken	Chicken, Red Onion
5	ckn_pesto	The Chicken Pesto P	Chicken	Chicken, Tomatoes,
6	southw_ckn	The Southwest Chick	Chicken	Chicken, Tomatoes,
7	thai_ckn	The Thai Chicken Pi	Chicken	Chicken, Pineapple
8	big_meat	The Big Meat Pizza	Classic	Bacon, Pepperoni,
9	classic_dlx	The Classic Deluxe P	Classic	Pepperoni, Mushroo
10	hawaiian	The Hawaiian Pizza	Classic	Sliced Ham, Pineap
11	ital_cpclo	The Italian Capocoll	Classic	Capocollo, Red Pep
12	napolitana	The Napolitana Pizz	Classic	Tomatoes, Anchovi
13	[illegible]p_msh_pep	The Pepperoni, Mus	Classic	Pepperoni, Mushroo
14	pepperoni	The Pepperoni Pizza	Classic	Mozzarella Cheese,
15	the_greek	The Greek Pizza	Classic	Kalamata Olives, Fe
16	brie_carre	The Brie Carre Pizza	Supreme	Brie Carre Cheese, I
17	calabrese	The Calabrese Pizza	Supreme	‘Nduja Salami, Pan
18	ital_supr	The Italian Supreme	Supreme	Calabrese Salami, C
19	peppr_salami	The Pepper Salami P	Supreme	Genoa Salami, Cap
20	prsc_argla	The Prosciutto and A	Supreme	Prosciutto di San Da
21	sicilian	The Sicilian Pizza	Supreme	Coarse Sicilian Sala
22	soppressata	The Soppressata Piz	Supreme	Soppressata Salami
23	spicy_ital	The Spicy Italian Pi	Supreme	Capocollo, Tomato
24	spinach_supr	The Spinach Supren	Supreme	Spinach, Red Onion
25	five_cheese	The Five Cheese Piz	Veggie	Mozzarella Cheese,
26	four_cheese	The Four Cheese Piz	Veggie	Ricotta Cheese, Go

4. **PIZZAS.csv**: This table contains information about pizza id, pizza type, size, price.



2	bbq_ckn_s	bbq_ckn	S	12.75
3	bbq_ckn_m	bbq_ckn	M	16.75
4	bbq_ckn_l	bbq_ckn	L	20.75
5	cali_ckn_s	cali_ckn	S	12.75
6	cali_ckn_m	cali_ckn	M	16.75
7	cali_ckn_l	cali_ckn	L	20.75
8	ckn_alfred	ckn_alfred	S	12.75
9	ckn_alfred	ckn_alfred	M	16.75
10	ckn_alfred	ckn_alfred	L	20.75
11	ckn_pesto_	ckn_pesto	S	12.75
12	ckn_pesto_	ckn_pesto	M	16.75
13	ckn_pesto_	ckn_pesto	L	20.75
14	southw_ck	southw_ck	S	12.75
15	southw_ck	southw_ck	M	16.75
16	southw_ck	southw_ck	L	20.75
17	thai_ckn_s	thai_ckn	S	12.75
18	thai_ckn_m	thai_ckn	M	16.75
19	thai_ckn_l	thai_ckn	L	20.75
20	big_meat_s	big_meat	S	12
21	big_meat_m	big_meat	M	16
22	big_meat_l	big_meat	L	20.5
23	classic_dlx	classic_dlx	S	12
24	classic_dlx	classic_dlx	M	16
25	classic_dlx	classic_dlx	L	20.5

By analysing the data in these key tables, analysts can gain insights into the causes and circumstances according to the data set.

Explain the Tool which you are going to use.

COGNOS: IBM Cognos is a business intelligence and performance management software suite that helps organizations analyse and make informed decisions based on their data. The software provides tools for reporting, analysis, score carding, and monitoring, as well as planning, budgeting, and forecasting.

DATA MODULE: is a metadata layer that provides a simplified and unified view of data sources that are used to create reports and dashboards. The data module provides a user-Friendly interface for creating relationships between data sources, defining calculations and aggregations, and specifying data governance rules. This makes it easier for business users to access and work with data, without requiring specialized technical skills.

A data module is designed to integrate with a wide range of data sources, including relational databases, flat files, and big data platforms. It provides a flexible and scalable approach to data integration, allowing users to connect to multiple data sources and combine them into a single view. This eliminates the need for users to have deep technical knowledge of the underlying data sources and makes it easier to work with data from different systems.

To create a data module in IBM Cognos, follow these steps:

- Open the IBM Cognos Analytics interface and navigate to the Data module option on the home screen.
- Select the data source that you want to use as the basis for your data module. This can be a relational database, flat file, or big data platform.

- Define the relationships between your data sources by dragging and dropping the relevant fields onto the canvas.

- Create any necessary calculations and aggregations by selecting the relevant fields and applying the appropriate mathematical or statistical functions.

- Define any data governance rules and policies that you want to apply to your data module.

Save your data module and use it as the basis for creating reports and dashboards.

Overall, a data module provides a user-friendly and flexible approach to data integration, allowing users to work with data from multiple sources without requiring specialized technical skills. By simplifying the process of data integration and governance, data modules can help organizations to make more informed decisions and gain insights into their data.

DASHBOARD: In Cognos, a dashboard is a visual representation of data that provides a quick and easy way to monitor and analyse key performance indicators (KPIs) and metrics. A dashboard typically consists of a set of graphical charts, tables, and other visualizations that help users to quickly understand the data and make informed decisions.

Cognos dashboards can be customized to fit the needs of specific users or groups. They can also be interactive, allowing users to drill down into the data to get more detailed information or to filter the data to focus on specific areas of interest.

Dashboards in Cognos can be created using a drag-and-drop interface, making them easy to build and customize. They can also be shared with others in the organization, making it easy to collaborate and make informed decisions based on the data.

Tools In Dashboard:

Summary: A summary is a type of visualization that displays a condensed version of data in a dashboard. It typically shows aggregated data in a simple format, such as a total or an average.

Dropdown List: A dropdown list is a user interface element that allows users to select an item from a list of options. It is often used in Cognos Dashboard to filter data based on user selection.

Heat Map: A heat map is a type of visualization that displays data in a matrix format where each cell is shaded according to its value. It is often used to represent the density of data points in a particular area.

Pie Chart: A pie chart is a circular chart that is divided into slices to represent numerical proportions. It is often used in Cognos Dashboard to show the relative proportions of different data points.

Crosstab: A crosstab is a table that displays data in a grid format where each row represents a category and each column represents a different variable. It is often used in Cognos Dashboard to compare data across different categories and variables.

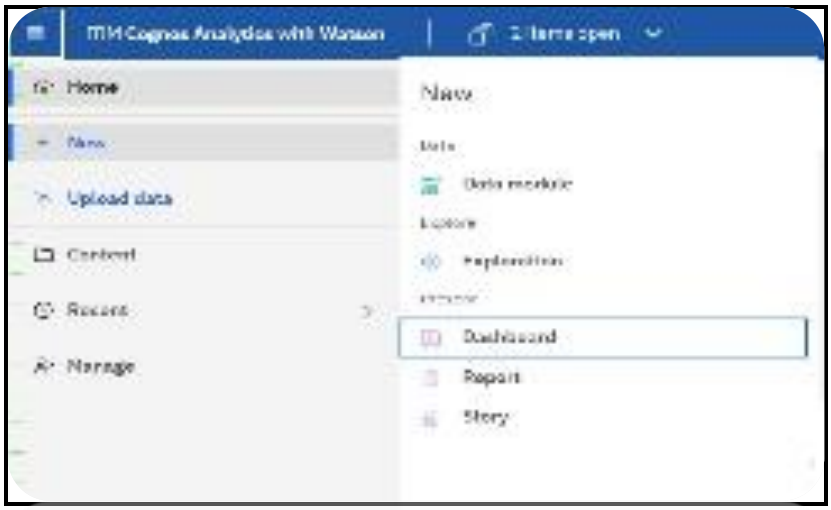
Map: A map is a type of visualization that displays data geographically. It is often used in Cognos Dashboard to show the distribution of data across different regions.

Network: A network is a type of visualization that displays data as nodes connected by edges. It is often used in Cognos Dashboard to show relationships between different data points.

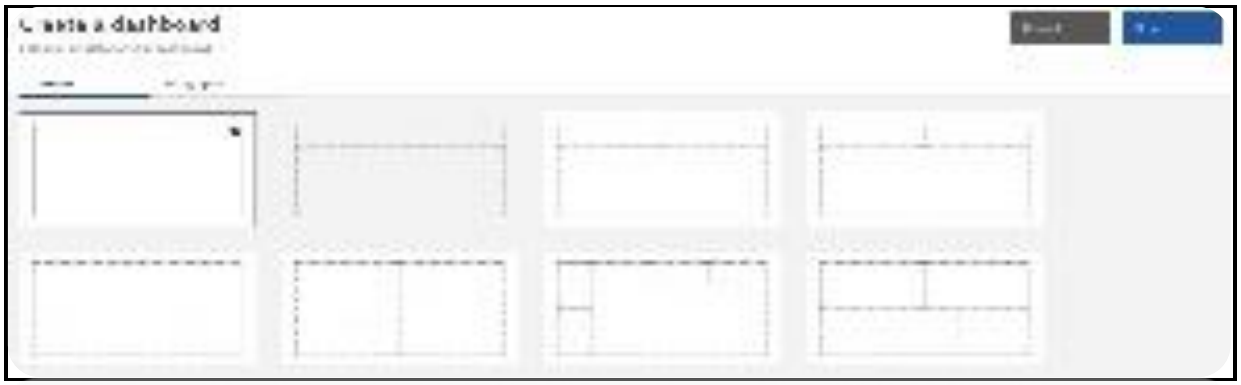
Column: A column is a type of visualization that displays data as vertical bars. It is often used in Cognos Dashboard to compare data across different categories.

Steps to create Dashboard.

STEP 1: On the home page of IBM Cognos there is a Hamburger menu on the top left of the screen, by clicking on that and then new the user can see the option to create a new Dashboard



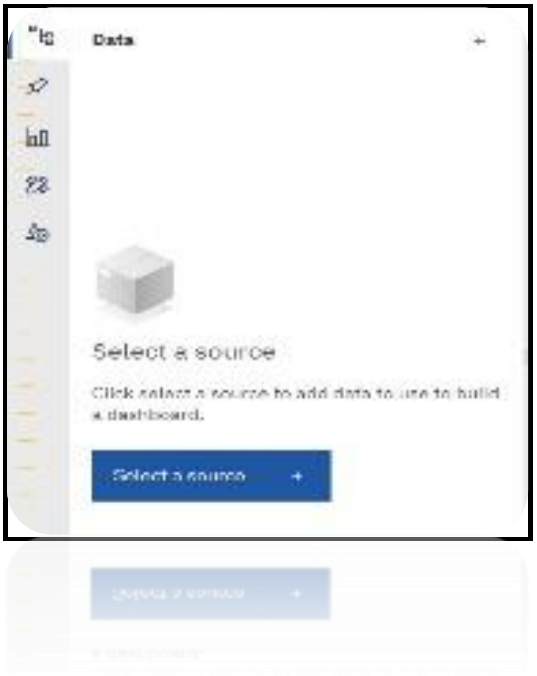
STEP 2: By clicking on the Dashboard icon a new window will show the user some predefined templates for the Dashboard



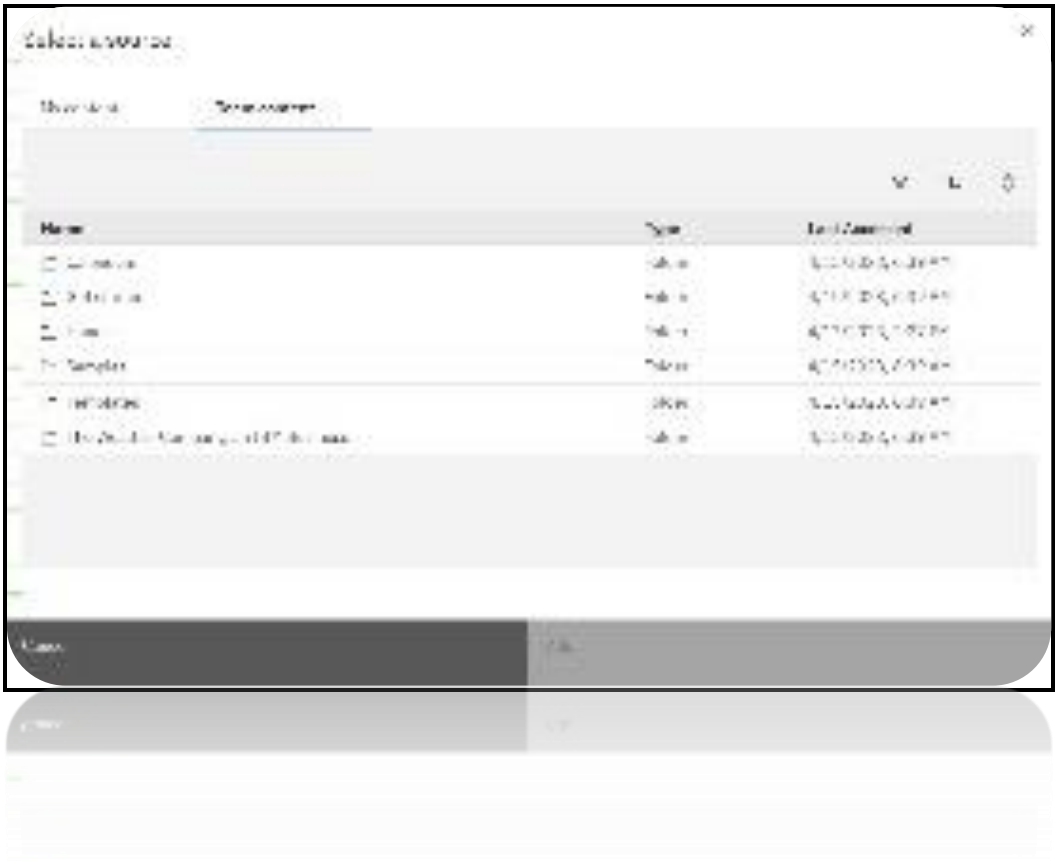
STEP 3: After choosing the template the user can click on the “CREATE” button on the top right of the screen, this will then create the dashboard and open the empty dashboard page

Steps to import the DATA.

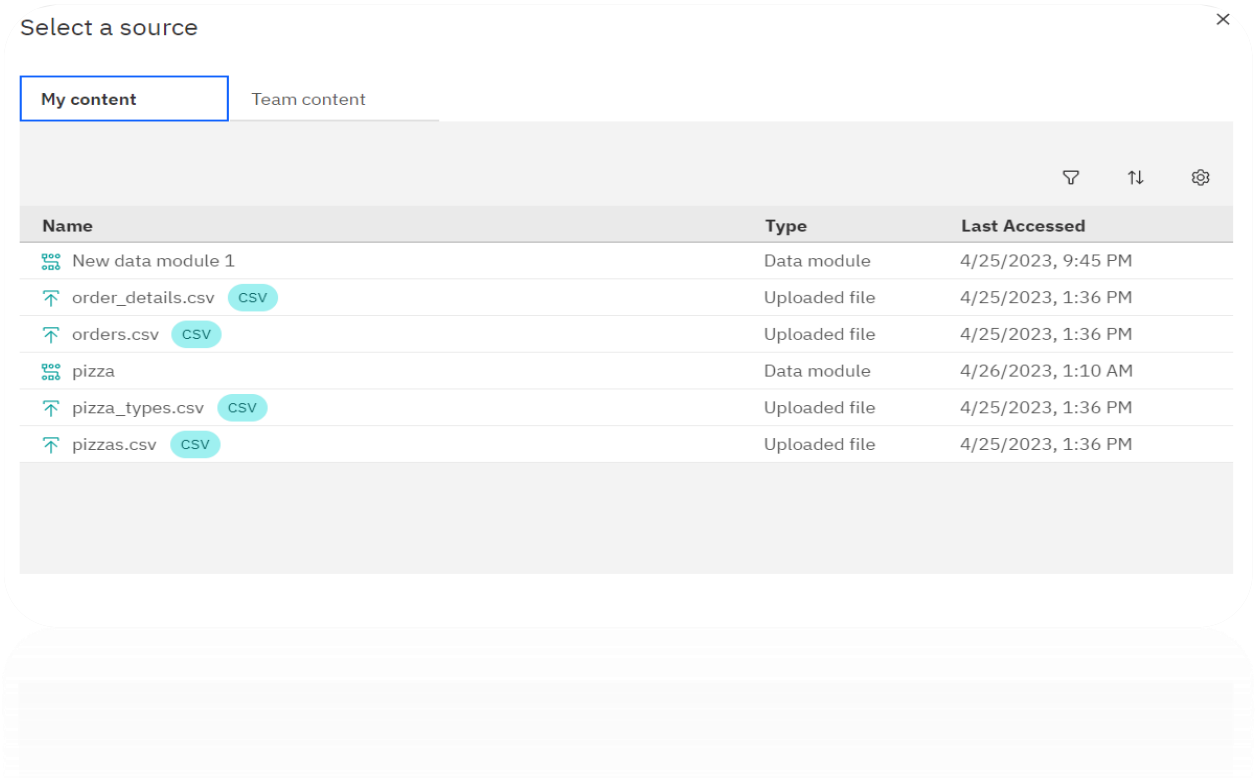
STEP 1: To import the dataset that the user will use on the Dashboard, click on the “Select a source” button on the left side of the screen



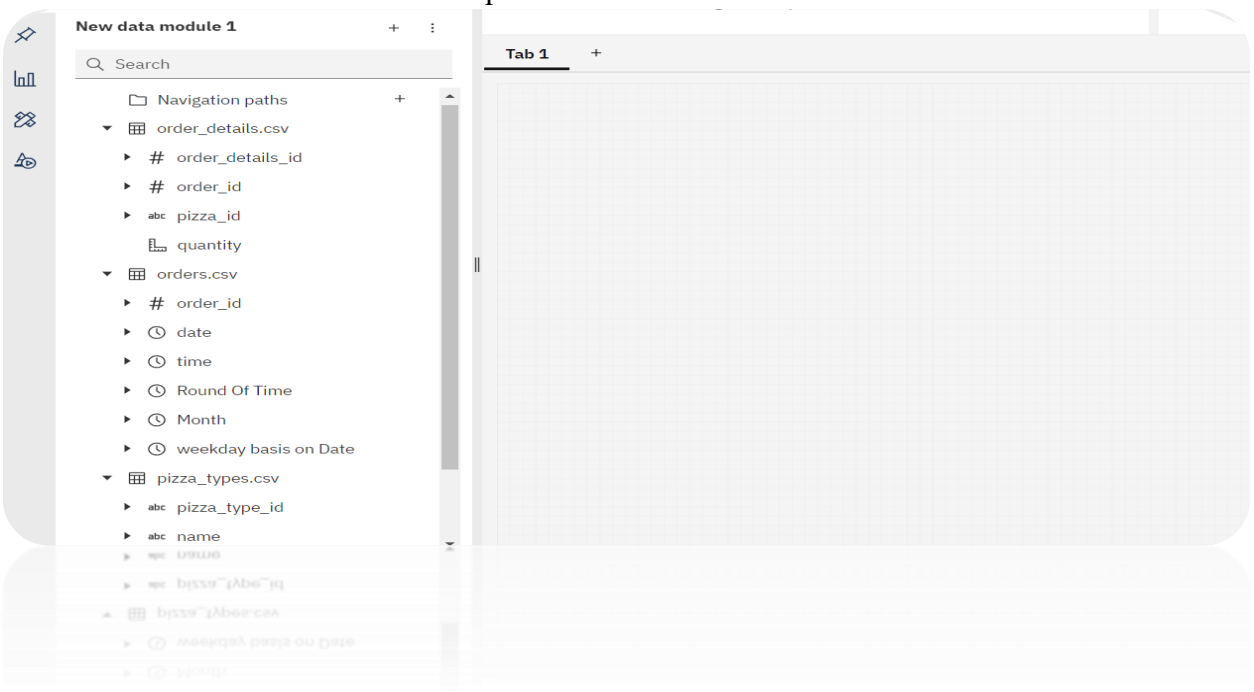
STEP 2: After clicking on the button a window will pop showing the location that user can import data from (Make sure to import data modules as Cognos tools only support data modules.)



We are using **“PIZZA csv dataset”** data for which we have to follow the following path: **My content select file we have created in data module.**



STEP 3: Click on “Add” button to import the data into Dashboard.

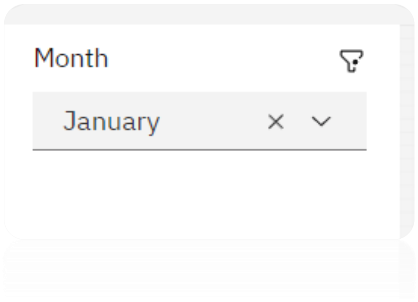


Queries you have to resolve using Dashboard Components:

1. **What was the total revenue generated in 2015, organized by month and year?**

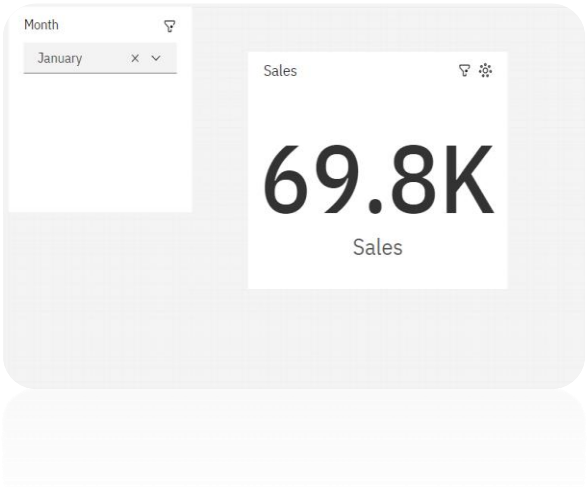
To see total sales on the basis of month follow these steps:

a. Open dashboard and navigate to visualization.
b. Select drop-down list from visualization and drag drop in dashboard canvas.
c. Select **“month”** in **“column”** field.
d. And select month from menu to see the data according to months.



e. Select summery from visualization tool.
f. Select total **“sales”** in value field.

Now dashboard is showing data of total sales on the basis of month.



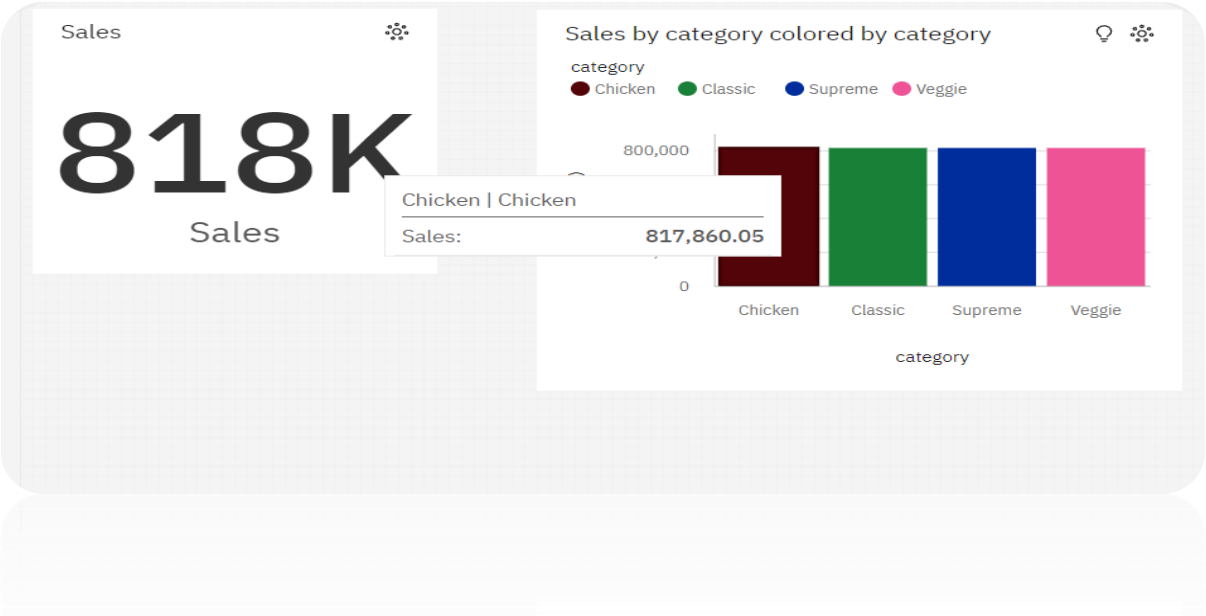
Summery: Total sales is 69.8k in the month of January.

2. **Create a chart that displays the contribution of each category to total pizza sales.**

To see pizza sales on the basis of each category follow these steps.

a. Navigate to visualization tool and select column from list.
b. Drag-drop selected column in dashboard.
c. Navigate to field section and select **“category”** in bars.
d. Also select **“sales”** in length.
e. Select **“category”** in colour to show data in form of different colours.

Now dashboard is showing data according the category wise.

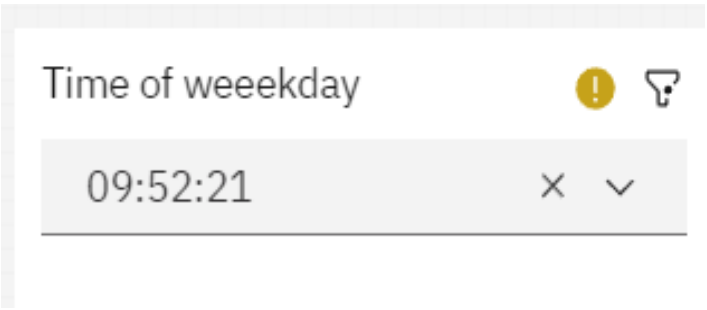


Summery: In above chart total sales is 818k and there are four categories of pizza's **"Chicken"," Classic"," supreme","veggies"**. Which are showing sales data In different colours.

3. **Identify the weekday with the highest pizza sales during a particular hour.**

Follow these steps to see the data of sales on basis of weekday during particular hour.

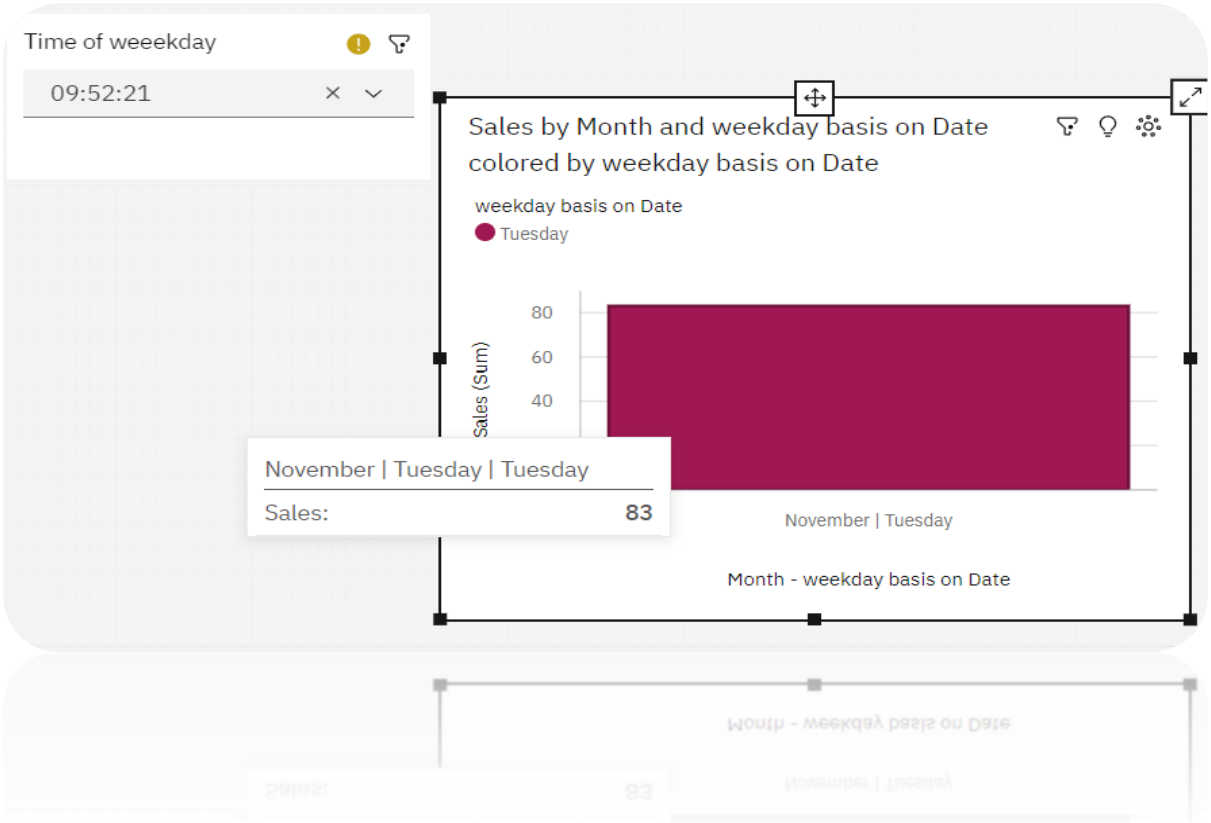
a. Navigate to visualization tool and select **"filter dropdown".**
b. Drag – drop filter drop down in dashboard canvas.
c. Select **"time"** in column field.
d. Click on menu and select time of weekday as per need.
e. Now data will show according the weekday.



To see highest pizza sales during a particular hour, follow these steps.

a. Navigate to visualization tool and select **“column”.**
b. Drag drop column in dashboard canvas.
c. Select **“month”** and **“weekday basis on date”** in **“bars”** field.
d. Select **“sales”** in **“length”** field also select **“week day basis on date”** in colour filed to show data on the basis of particular colour.

Now pizza sales will show according to the particular hour on the basis of weekday.



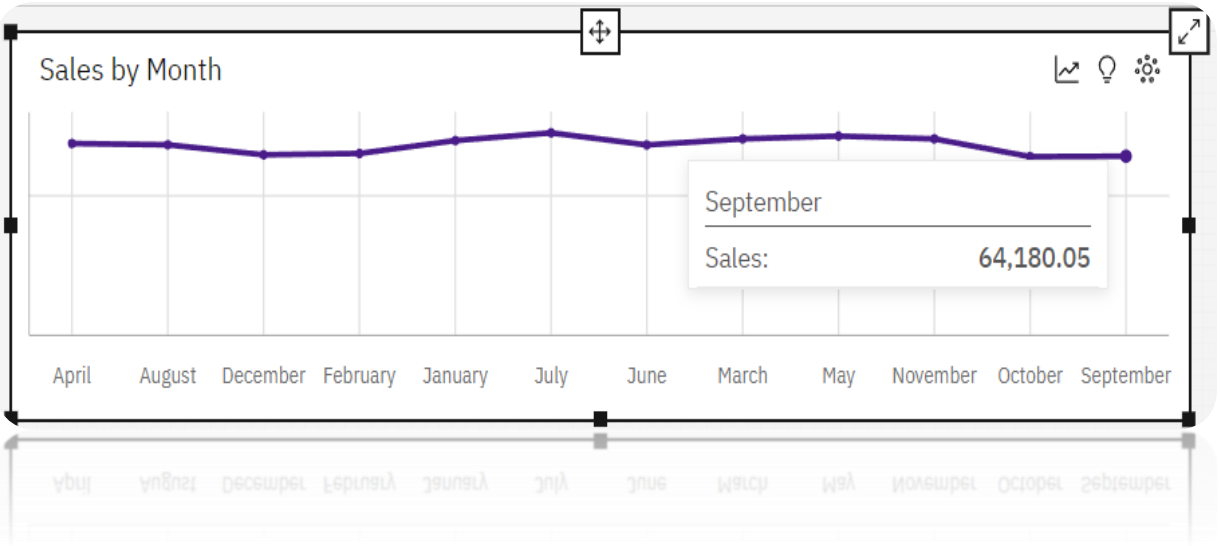
Summary: Total pizza sales on time of weekday “09:52:21” in the month of November on Tuesday is 83.

4. **Create a line chart that illustrates the fluctuation in total sales over the month.**

To see the fluctuation in total sales over the months follow these steps.

a. Navigate to visualization tool and select **"lines"** tool.
b. Drag-drop lines tool in dashboard canvas.
c. Select **"month"** in **"x-axis"** and also select "sales" in **"y-axis".**

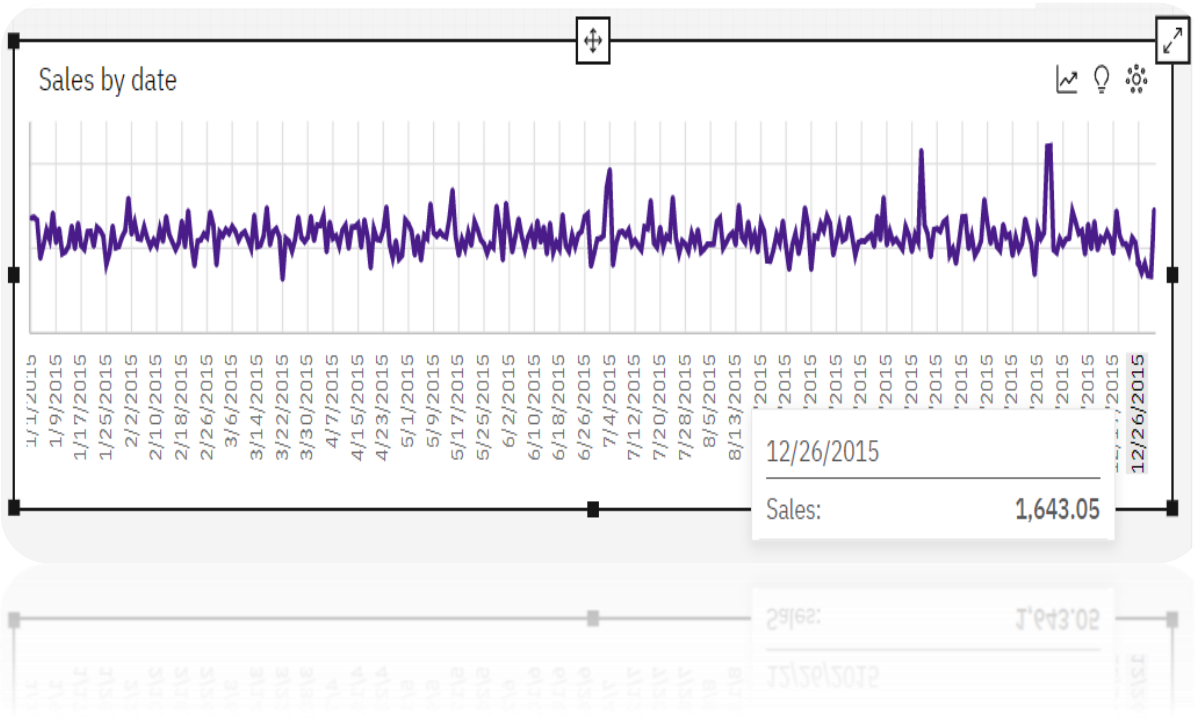
Now fluctuation in total sales is showing over the month.



To see the fluctuation in total sales on the basis of date follow these steps.

a. Navigate to visualization tool and select **"lines"** tool.
b. Drag-drop lines tool in dashboard canvas.
c. Select **"Date"** in **"X-axis"** field and also select **"Sales"** in **"Y-axis".**

Now fluctuation in total sales is showing over the dates.



Summery: Above representation is showing the fluctuation in total sales over the months and days.

In the month of September total sales is 64,180.05 rupees and on 12/26/2015 Total sales are 1,643.05 rupees.

5. **Determine which pizza type was the most popular in the month of June.**

To see the type of popular pizza in the month of June follow these steps.

Step1:

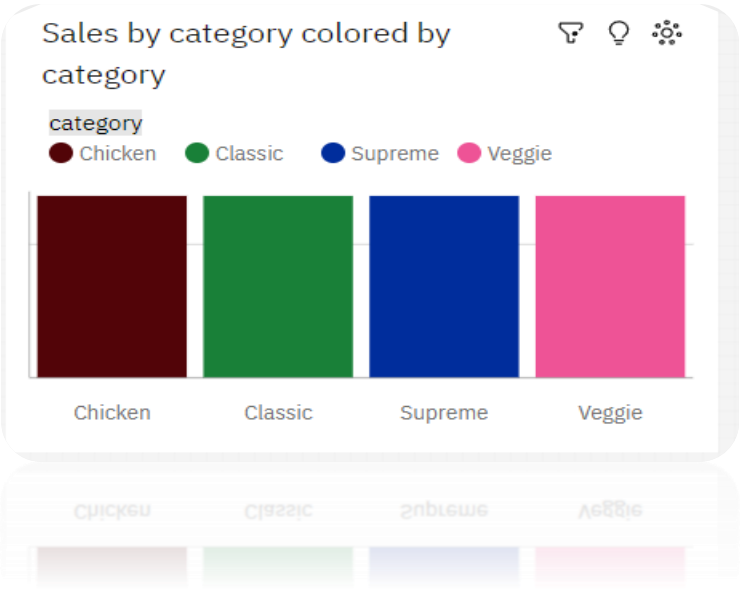
a. Navigate to visualization tool and select **"drop-down list".**
b. Drag-drop **"drop-down list"** in dashboard canvas.
c. Select **"month"** in the field of drop-down sections.
d. Click on menu and select month **"June".**

Now data will show on basis of June month.

Step2: To show pizza category wise follow these steps.

a. Navigate to visualization and select "column" tool.
b. Drag-drop column tool "column" in dashboard canvas.
c. Navigate to filed and select **"category"** in **"bars"**.
d. Select "sales" in "length" filed.
e. Also select **"category"** in **"colour"** field to show data on the basis of particular colour.

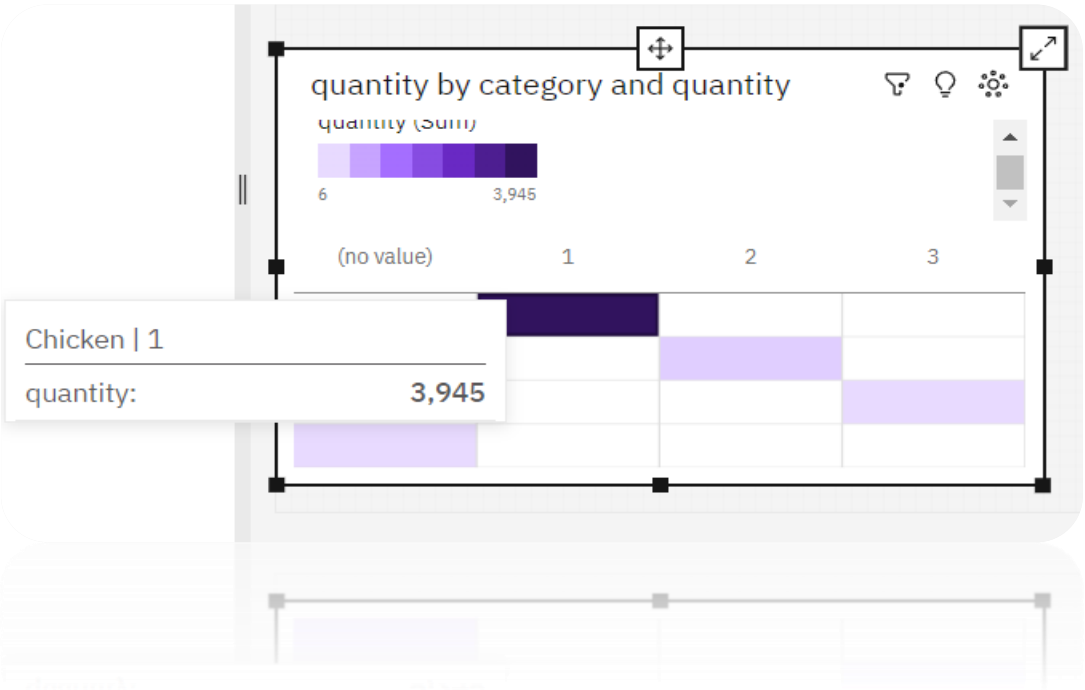
Now category of pizza shows in different-different colours.



Step3: To show most popular pizza follow these steps.

a. Navigate to visualization tool and select **“heat-map”** tool.
b. Drag-drop **“heat-map”** in dashboard canvas.
c. Navigate to field section and select “category” in **“rows”.**
d. Select “quantity” in **“column”** field also select **“quantity”** in **“heat”** field.

Now heat map will shows most popular pizza in the month of June.



Summary: Most popular pizza in the month of June is “chicken” with 3,945 sales.

Thank you