COFFEE SHOP DASHBOARD

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Outline

Data Overview

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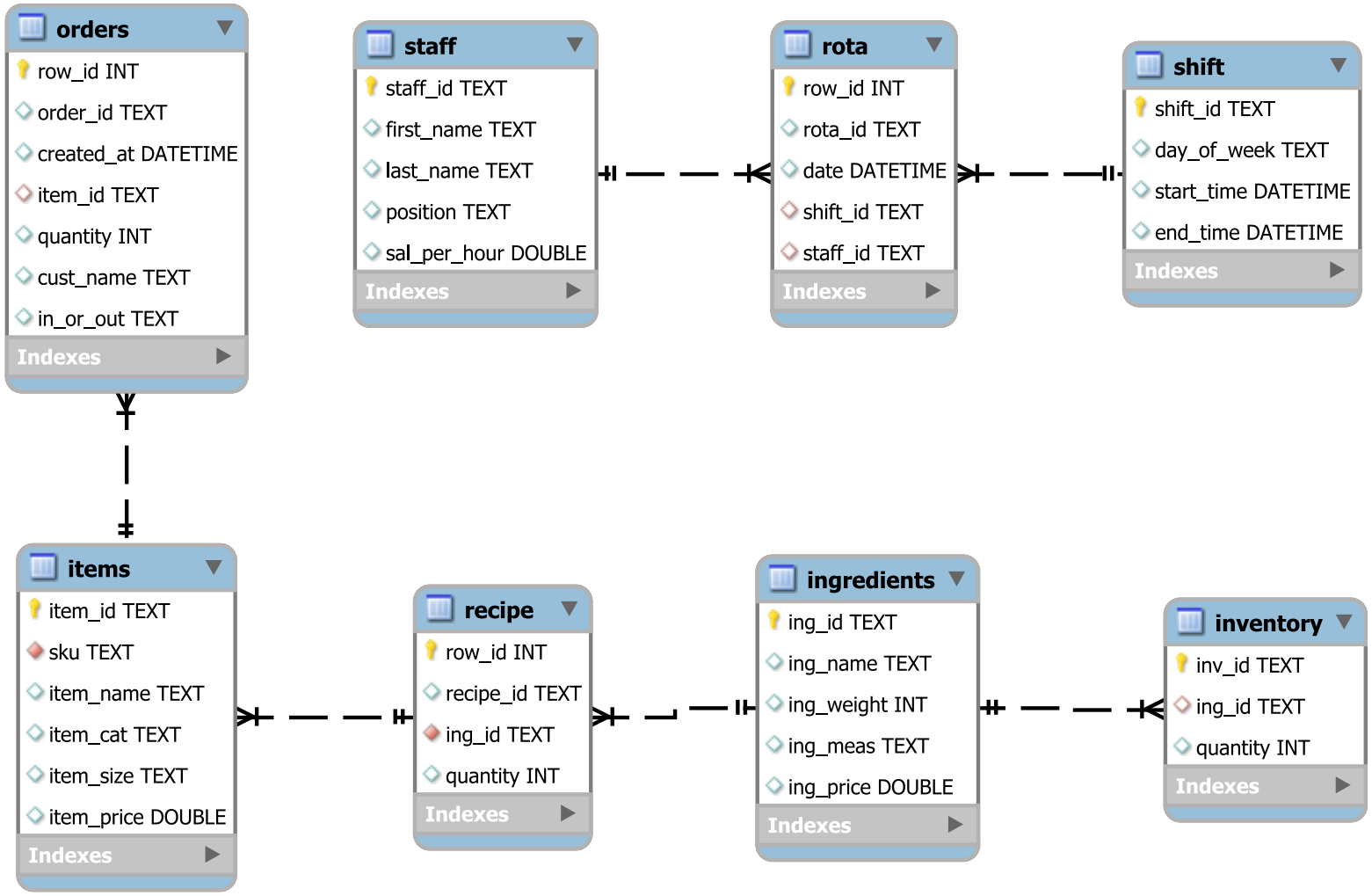
Data Overview

The "**Coffee Shop Data**" dataset is a comprehensive **collection designed for a wide array of data analysis**, providing a deep dive into the operations of a coffee shop. This database was **aimed at extracting** meaningful **insights from everyday coffee shop operations**. The dataset consists of several tables (**orders, items, recipes, ingredients, inventory, staff, shiff,** and **rota**).

This dataset not only showcases the complexities of managing a coffee shop but also serves as an invaluable resource for anyone interested in data analysis, business optimization, or understanding the finer details of the food service industry.

Please note that the data contained within this dataset is not real and was generated with the assistance of ChatGPT to simulate a realistic coffee shop environment.

ERD


orders
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order_id TEXT
created_at DATETIME
item_id TEXT
quantity INT
cust_name TEXT
in_or_out TEXT
Indexes
staff
staff_id TEXT
first_name TEXT
last_name TEXT
position TEXT
sal_per_hour DOUBLE
Indexes
rota
row_id INT
rota_id TEXT
date DATETIME
shift_id TEXT
staff_id TEXT
Indexes
shift
shift_id TEXT
day_of_week TEXT
start_time DATETIME
end_time DATETIME
Indexes
items
item_id TEXT
sku TEXT
item_name TEXT
item_cat TEXT
item_size TEXT
item_price DOUBLE
Indexes
recipe
row_id INT
recipe_id TEXT
ing_id TEXT
quantity INT
Indexes
ingredients
ing_id TEXT
ing_name TEXT
ing_weight INT
ing_meas TEXT
ing_price DOUBLE
Indexes
inventory
inv_id TEXT
ing_id TEXT
quantity INT
Indexes

Dashboard 1 – Order Activity

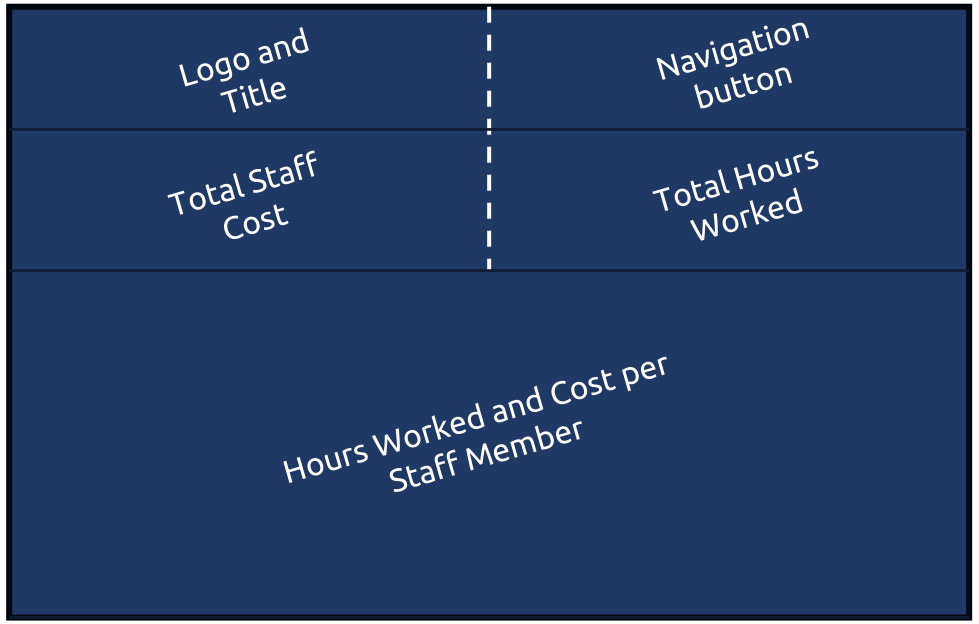
1. Total Orders
2. Total Sales
3. Total Items
4. Average Order Value
5. Sales by Category
6. Orders by Hour
7. Sales by Hour
8. Orders Dine In or Out

Dashboard 2 – Inventory

1. Total Quantity by Ingredient
2. Total Cost of Ingredients
3. Calculate Cos of Coffee
4. Percentage Stock Remaining by Ingredients
5. List of Ingredients to re-order

Dashboard 3 – Staff

1. Total Staff Cost
2. Total Hours Worked
3. Hours Worked by Staff Member
4. Cost per Staff Member



Datamart Preparation: Sales

```sql
CREATE VIEW Sales AS
    SELECT
        o.created_at,
        o.order_id,
        i.item_name,
        i.item_cat,
        o.quantity,
        i.item_price,
        o.in_or_out
    FROM
        orders o
            LEFT JOIN
        items i ON o.item_id = i.item_id;
```

Its code **creates a view** in a database called **Sales**. **Views** are virtual tables that reference other tables. In this case, the **Sales view joins data** from two tables: **orders** and **items**. The columns from the orders table include **created_at**, **order_id**, **quantity** and **in_or_out**. The columns from the items table include **item_name**, **item_cat**, and **item_price**.The **left join** in the query ensures that all rows from the orders table are included in the results, **even if there is no matching item** in the **items table**. This can be useful for identifying orders where an item was not specified.

Datamart Preparation: Stocks

```sql
CREATE VIEW Stocks AS
WITH CTE_stocks AS
(SELECT
i.item_id,
i.item_name,
i.sku,
i.item_size,
r.ing_id,
ing.ing_name,
sum(o.quantity) AS order_quantity,
r.quantity AS recipe_quantity,
ing.ing_weight,
ing.ing_price
FROM orders o
LEFT JOIN items i ON o.item_id = i.item_id
LEFT JOIN recipe r ON i.sku = r.recipe_id
LEFT JOIN ingredients ing ON r.ing_id = ing.ing_id
GROUP BY
    i.sku,
    i.item_id,
    i.item_name,
    item_size,
    r.ing_id,
    r.quantity,
    ing.ing_name,
    ing.ing_weight,
    ing.ing_price)
```

```sql
SELECT
item_id,
item_name,
item_size,
ing_id,
ing_name,
ing_weight,
ing_price,
order_quantity,
recipe_quantity,
order_quantity*recipe_quantity as ordered_weight,
ing_price/ing_weight as unit_cost,
order_quantity*recipe_quantity*(ing_price/ing_weight) as ingredient_cost
FROM CTE_Stocks;
```

**

$$ordered\ weight = order\ quantity \times recipe\ quantity$$

$$unit\ cost = \frac{ingredient\ price}{ingredient\ weight}$$

$$ingredient\ cost = ordered\ weight \times unit\ cost$$

Datamart Preparation: Stocks

```sql
CREATE VIEW Stocks AS
WITH CTE_stocks AS
(SELECT
i.item_id,
i.item_name,
i.sku,
i.item_size,
r.ing_id,
ing.ing_name,
sum(o.quantity) AS order_quantity,
r.quantity AS recipe_quantity,
ing.ing_weight,
ing.ing_price
FROM orders o
LEFT JOIN items i ON o.item_id = i.item_id
LEFT JOIN recipe r ON i.sku = r.recipe_id
LEFT JOIN ingredients ing ON r.ing_id = ing.ing_id
GROUP BY
    i.sku,
    i.item_id,
    i.item_name,
    item_size,
    r.ing_id,
    r.quantity,
    ing.ing_name,
    ing.ing_weight,
    ing.ing_price)
```

Its code **creates a view** in a database called **Stocks**. In this case, the **Stocks view joins data** from five tables: **orders**, **items**, **recipe**, and **ingredients**. Then its code calculating sumation on the **order_quantity**, and **group by** sku, item_id, item_name, item_size, ing_id, quantity, ing_name, ing-weight, and ing_price.

Datamart Preparation: Stocks

The SQL code **selecting** column from **CTE_Stocks** that shows the **total quantity of each ingredient** used in each item, along with the **item information** (name, size, etc.), the **ingredient information** (name, weight, price), and **the cost of the ingredients** used in each order item.

```sql
SELECT
item_id,
item_name,
item_size,
ing_id,
ing_name,
ing_weight,
ing_price,
order_quantity,
recipe_quantity,
order_quantity*recipe_quantity as ordered_weight,
ing_price/ing_weight as unit_cost,
order_quantity*recipe_quantity*(ing_price/ing_weight) as ingredient_cost
FROM CTE_Stocks;
```

**

$$ordered\ weight = order\ quantity \times recipe\ quantity$$

$$unit\ cost = \frac{ingredient\ price}{ingredient\ weight}$$

$$ingredient\ cost = ordered\ weight \times unit\ cost$$

Datamart Preparation: Stock2

```sql
CREATE VIEW STOCK2 AS
    SELECT
        s1.ing_id,
        s1.ing_name,
        s1.ordered_weight,
        inv.quantity * ing.ing_weight AS total_inv_weight
    FROM
        (SELECT
            s.ing_id, s.ing_name, SUM(ordered_weight) AS ordered_weight
        FROM
            stocks s
        GROUP BY s.ing_name , s.ing_id) s1
            LEFT JOIN
        ingredients ing ON s1.ing_id = ing.ing_id
            LEFT JOIN
        inventory inv ON s1.ing_id = inv.ing_id
    GROUP BY s1.ing_id , s1.ing_name , s1.ordered_weight , total_inv_weight;
```

The SQL code creates a **view** named **STOCK2** that shows the **ingredient ID**, **name**, and **ordered weight** from the **stocks table**, along with the total weight of that **ingredient available** in **inventory**.

Datamart Preparation: Staff Cost

```sql
CREATE VIEW Staff_Cost AS
    SELECT
        DATE(r.date) AS date,
        s.first_name,
        s.last_name,
        s.sal_per_hour AS hourly_rate,
        TIME(sh.start_time) AS start_time,
        TIME(sh.end_time) AS end_time,
        ((HOUR(TIMEDIFF(sh.end_time, sh.start_time)) * 60) +
(MINUTE(TIMEDIFF(sh.end_time, sh.start_time)))) / 60 AS hour_in_shift,
        ((HOUR(TIMEDIFF(sh.end_time, sh.start_time)) * 60) +
(MINUTE(TIMEDIFF(sh.end_time, sh.start_time)))) / 60 * s.sal_per_hour AS staff_cost
    FROM
        rota r
            LEFT JOIN
        staff s ON r.staff_id = s.staff_id
            LEFT JOIN
        shift sh ON r.shift_id = sh.shift_id;
```

The **view provides** a detailed breakdown of **staffing costs for each shift**. It shows the **date** the shift took place, the **staff member** who worked the shift, their **hourly pay rate**, when the **shift started and ended**, **how long** the **shift lasted** in hours, and the **total cost** of paying the staff member for that shift.

Exported Data View

1. Sales
2. Stocks 1
3. Stocks 2
4. Staff

1

created_at	order_id	item_name	item_cat	quantity	item_price	in_or_out
2024-02-12 07:04:19	ORD001	Espresso	Hot Drinks	1	2.15	out
2024-02-12 07:09:38	ORD002	Hot Chocolate	Hot Drinks	1	4.6	in
2024-02-12 07:14:29	ORD003	Espresso	Hot Drinks	1	2.15	out
2024-02-12 07:18:39	ORD004	Iced Tea	Cold Drinks	1	3.25	out
2024-02-12 07:23:44	ORD005	Sandwich Salami&Mozzarella	Snacks	1	5.5	out
2024-02-12 07:28:20	ORD006	Cappuccino	Hot Drinks	1	3.45	in
2024-02-12 07:28:20	ORD006	Cold Coffee	Cold Drinks	1	3.75	in
2024-02-12 07:33:58	ORD007	Flat White	Hot Drinks	1	3.15	out
2024-02-12 07:33:58	ORD007	Iced Tea	Cold Drinks	1	3.55	
2024-02-12 07:39:02	ORD008	Caramel Macchiato	Hot Drinks	1	4.2	in
2024-02-12 07:39:01	ORD008	Cold Mocha	Cold Drinks	1	4.6	

2

item_id	item_name	item_size	ing_id	ing_name	ing_weight	ing_price	order_quantity	recipe_quantity	ordered_weight	unit_cost	ingredient_cost
It008	Espresso	N/A	ING001	Espresso beans	1000	12	19	8	152	0.012	1.824
It014	Hot Chocolate	Large	ING005	Whipped cream	300	1.35	22	40	880	0.0045000000000000005	3.9600000000000004
It014	Hot Chocolate	Large	ING013	Chocolate	1000	10.5	22	30	660	0.0105	6.930000000000001
It014	Hot Chocolate	Large	ING012	Cocoa powder	1000	22	22	35	770	0.022	16.939999999999998
It014	Hot Chocolate	Large	ING002	Whole Milk	1000	1.2	22	180	3960	0.0012	4.752
It019	Iced Tea	Medium	ING010	Sugar	1000	1.5	15	20	300	0.0015	0.45
It019	Iced Tea	Medium	ING017	Black Tea	1000	16	15	10	150	0.016	2.4
It024	Sandwich Salami&Mozzarella	N/A	ING004	Mozzarella	500	5	19	20	380	0.01	3.8000000000000003
It024	Sandwich Salami&Mozzarella	N/A	ING016	Salami	1000	15.49	19	50	950	0.01549	14.7155
It024	Sandwich Salami&Mozzarella	N/A	ING011	Panini Bread	4	1.35	19	1	19	0.3375	6.4125000000000005

3

ing_id	ing_name	ordered_weight	total_inv_weight
ING001	Espresso beans	2834	4000
ING005	Whipped cream	1270	2100
ING013	Chocolate	920	2000
ING012	Cocoa powder	1095	5000
ING002	Whole Milk	49940	55000
ING010	Sugar	2235	4000
ING017	Black Tea	150	2000
ING004	Mozzarella	380	2000
ING016	Salami	1265	2000
ING011	Panini Bread	35	80
ING009	Barista carame...	910	1000

4

date	first_name	last_name	hourly_rate	start_time	end_time	hour_in_shift	staff_cost
2024-02-12	Emma	Johnson	10	07:00:00	13:00:00	6.0000	60
2024-02-12	Olivia	Williams	10	07:00:00	13:00:00	6.0000	60
2024-02-12	Emma	Johnson	10	13:00:00	17:00:00	4.0000	40
2024-02-13	Liam	Smith	10	07:00:00	13:00:00	6.0000	60
2024-02-13	Noah	Brown	10	07:00:00	13:00:00	6.0000	60
2024-02-13	Liam	Smith	10	13:00:00	17:00:00	4.0000	40
2024-02-14	Emma	Johnson	10	07:00:00	13:00:00	6.0000	60
2024-02-14	Olivia	Williams	10	07:00:00	13:00:00	6.0000	60
2024-02-14	Olivia	Williams	10	13:00:00	17:00:00	4.0000	40
2024-02-15	Liam	Smith	10	07:00:00	13:00:00	6.0000	60
2024-02-15	Noah	Brown	10	07:00:00	13:00:00	6.0000	60

Data Visualization

You can get details data visualization on my **tableau public**

Tableau Dashboard : Sales

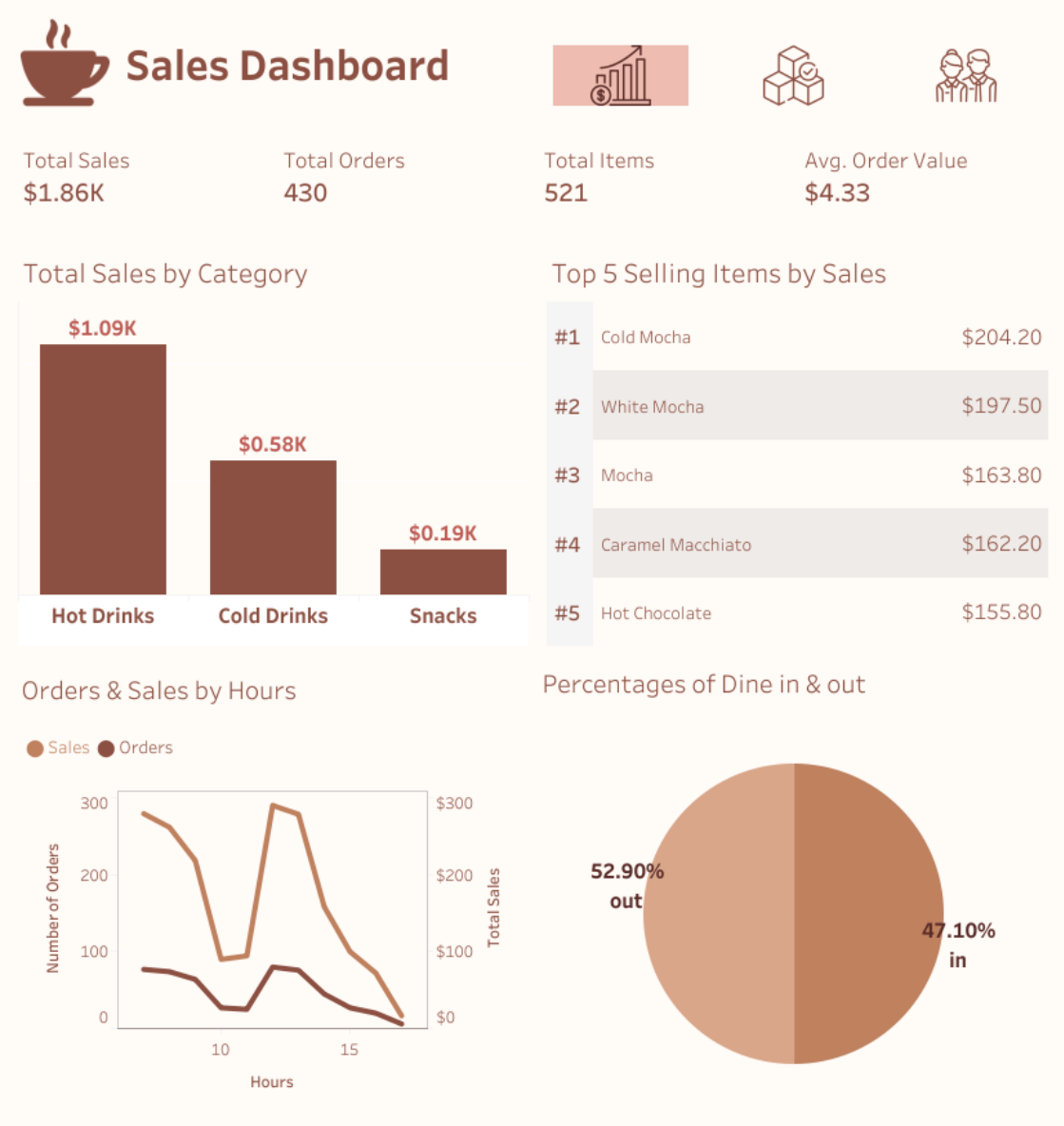


Tableau Dashboard : Stoks

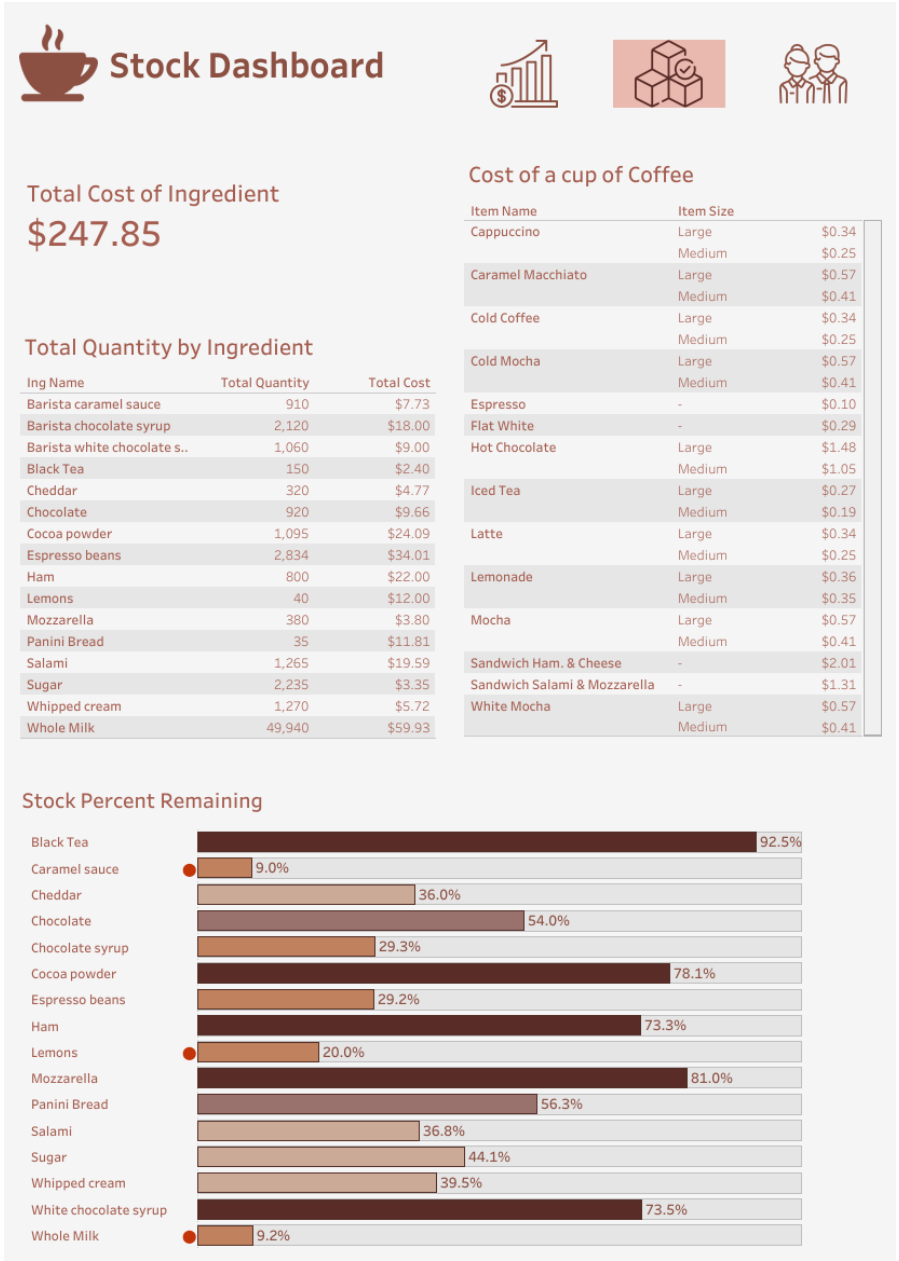
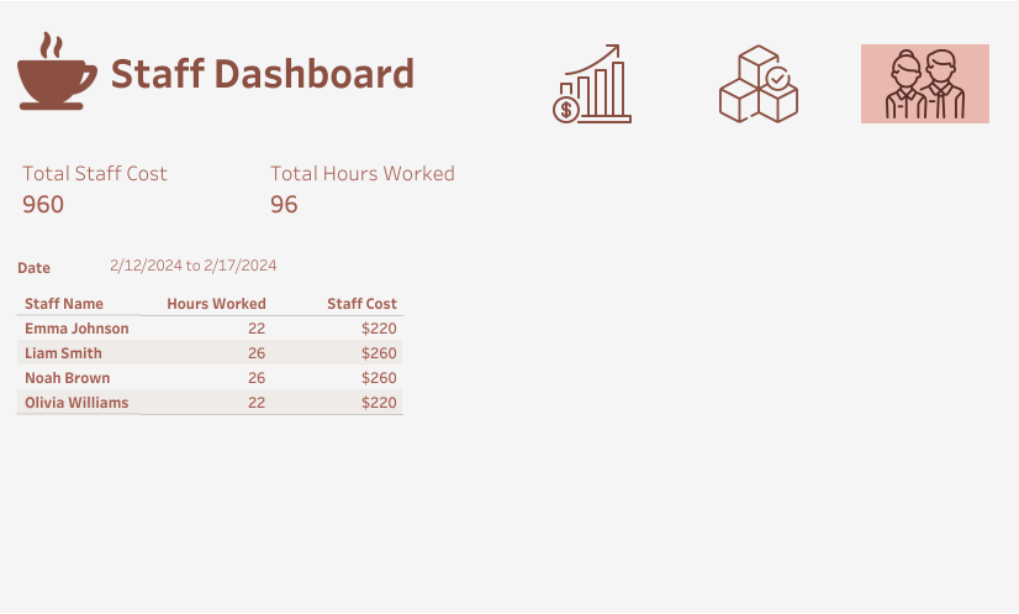


Tableau Dashboard : Staff



How to Use Dashboard

1. **Dashboard Title**
   Information about the type of dashboards

2. **Navigation Buttons**
   Navigate to other dashboards

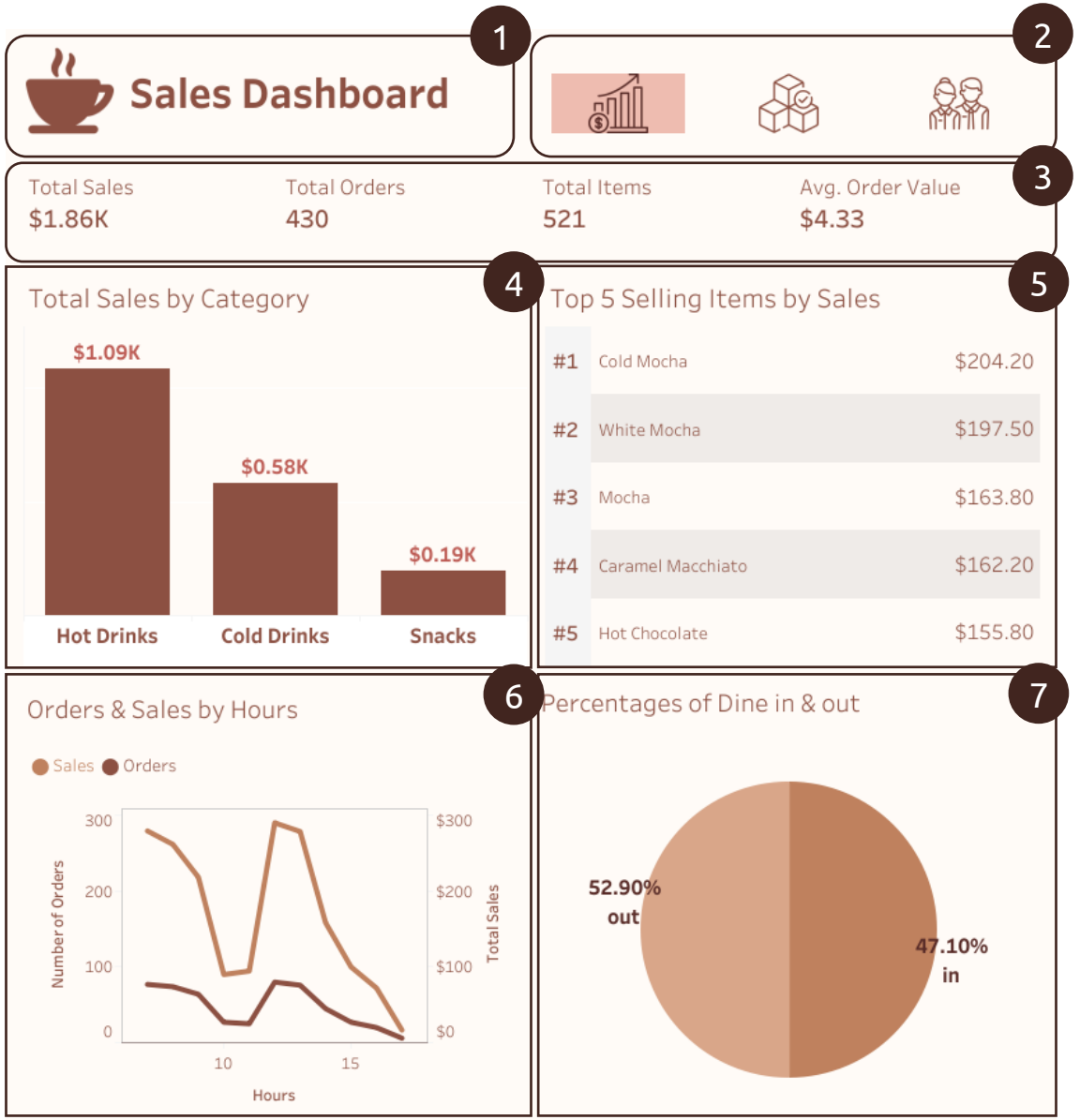
3. **Scorecards**
   Provides overview information on each data

4. **Total Sales by Category**
   Analyzed revenue generation by item category

5. **Top 5 Selling Items by Sales**
   The most popular items

6. **Orders & Sales by Hours**
   Analyzed the distribution of orders throughout the day, and hourly revenue trends

7. **Percentages of Dine in & Out**
   Differentiated between dine-in and takeout orders



Thank You

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