Section A: Google Sheet
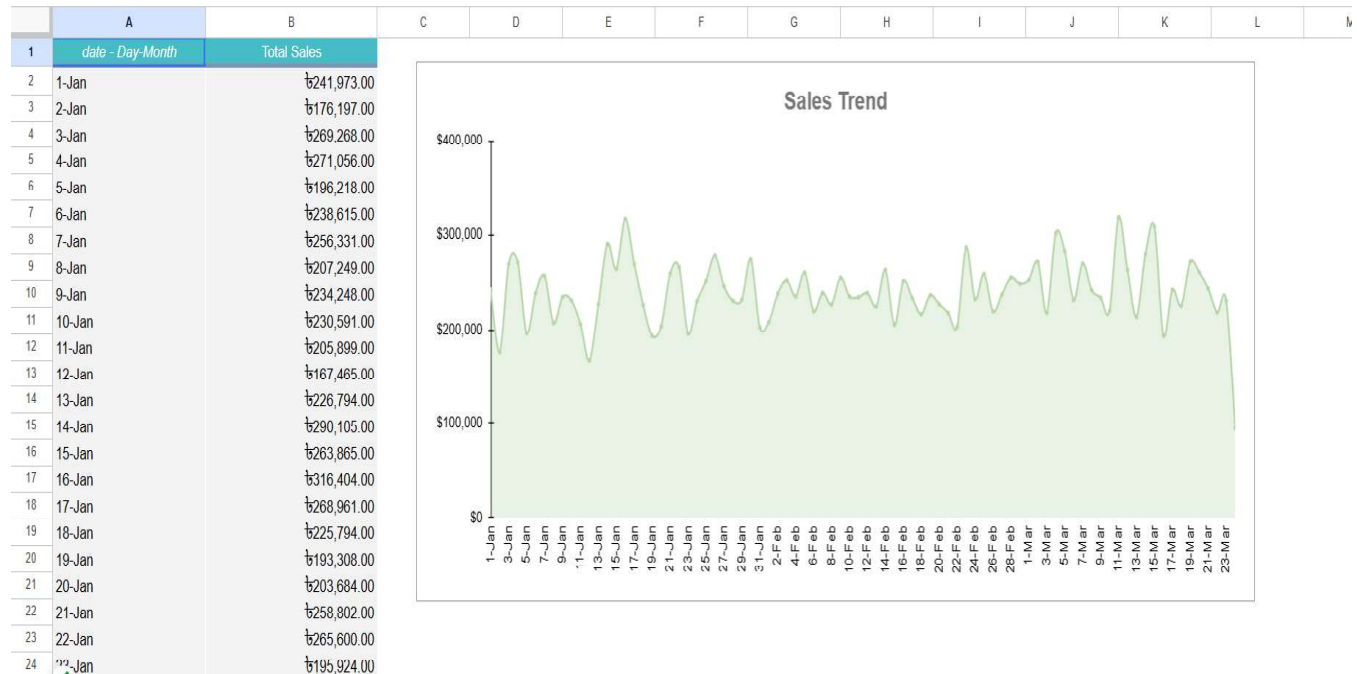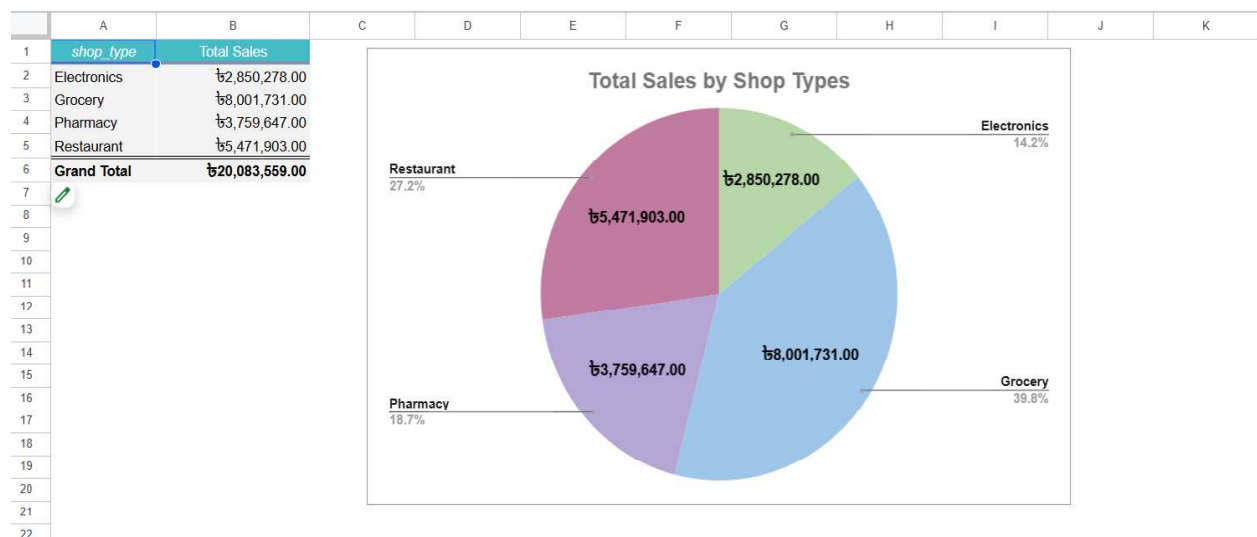
Google Sheet Link:

https://docs.google.com/spreadsheets/d/1l4BmBHUQGKc2aRhNeDxZm6AuJQ0WNWr5M xv2kgNhBBM/edit?usp=sharing

Total sales amount by date

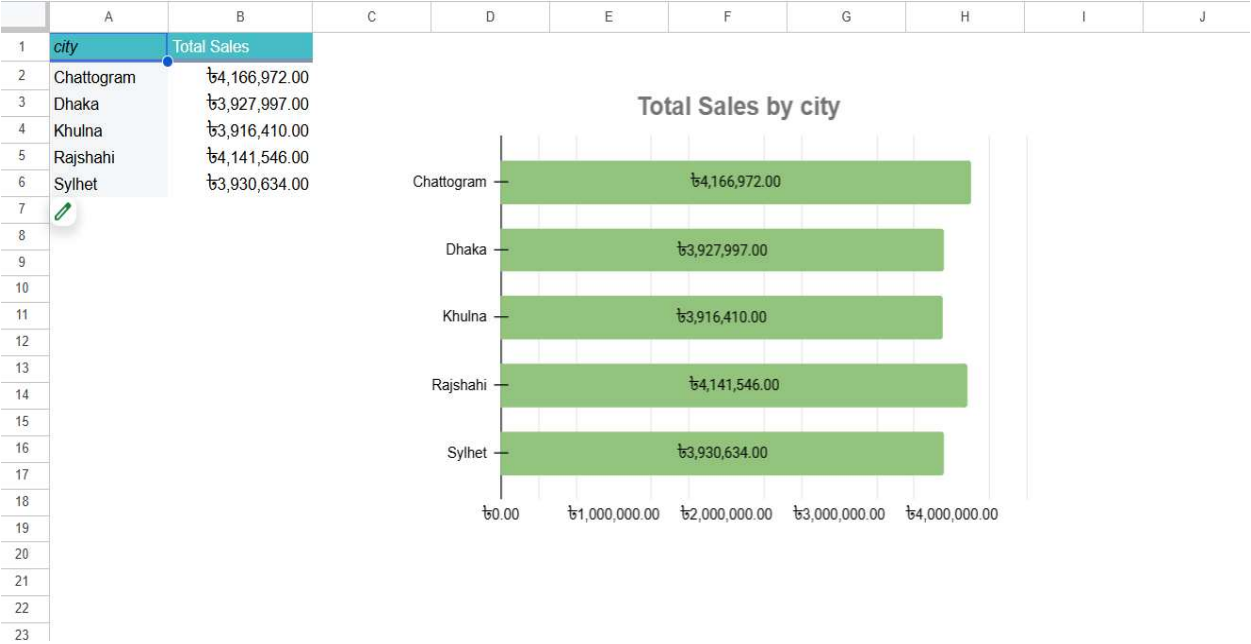| date - Day-Month	Total Sales
1-Jan	৳241,973.00
2-Jan	৳176,197.00
3-Jan	৳269,268.00
4-Jan	৳271,056.00
5-Jan	৳196,218.00
6-Jan	৳238,615.00
7-Jan	৳256,331.00
8-Jan	৳207,249.00
9-Jan	৳234,248.00
10-Jan	৳230,591.00
11-Jan	৳205,899.00
12-Jan	৳167,465.00
13-Jan	৳226,794.00
14-Jan	৳290,105.00
15-Jan	৳263,865.00
16-Jan	৳316,404.00
17-Jan	৳268,961.00
18-Jan	৳225,794.00
19-Jan	৳193,308.00
20-Jan	৳203,684.00
21-Jan	৳258,802.00
22-Jan	৳265,600.00
23-Jan	৳195,924.00

Total sales amount by shop type

shop_type	Total Sales
Electronics	৳2,850,278.00
Grocery	৳8,001,731.00
Pharmacy	৳3,759,647.00
Restaurant	৳5,471,903.00
Grand Total	**৳20,083,559.00**

Average transactions per shop

shop_id	total_transactions		shop_id	Average Transaction
1102	283		1000	26.33
1179	354		1001	32.88
1092	289		1002	25.40
1014	453		1003	34.40
1106	328		1004	25.71
1071	324		1005	29.00
1188	255		1006	25.50
1020	295		1007	30.36
1121	284		1008	28.10
1074	252		1009	28.14
1087	250		1010	29.42
1116	520		1011	24.13
1099	237		1012	20.70
1103	442		1013	30.64
1151	527		1014	32.36
1130	389		1015	29.67
1149	219		1016	30.86
1052	399		1017	20.57
1001	263		1018	34.29
1157	354		1019	38.00
1037	346		1020	29.50
1129	371		1021	35.63
1191	440		1022	31.43
1187	425		1023	29.38

Average Transactions per Shop

29.9255

Sales amount by city

	A	B
1	city	Total Sales
2	Chattogram	৳4,166,972.00
3	Dhaka	৳3,927,997.00
4	Khulna	৳3,916,410.00
5	Rajshahi	৳4,141,546.00
6	Sylhet	৳3,930,634.00

Total Sales by city

Chattogram — ৳4,166,972.00
Dhaka — ৳3,927,997.00
Khulna — ৳3,916,410.00
Rajshahi — ৳4,141,546.00
Sylhet — ৳3,930,634.00

৳0.00 ৳1,000,000.00 ৳2,000,000.00 ৳3,000,000.00 ৳4,000,000.00

Subscription purchased count by shop type

Section B: SQL

Q1. Daily Performance Classification

MySql Script:

```
1  ⊖ WITH daily_totals AS (
2       SELECT
3           DATE(date) AS sales_date,
4           SUM(CAST(total_sales_amount AS DECIMAL(10,2))) AS total_sales,
5           SUM(CAST(transactions_count AS UNSIGNED)) AS total_transactions
6       FROM shop_activity
7       GROUP BY DATE(date)
8  ),
9  ⊖ ranked_totals AS (
10      SELECT *,
11          NTILE(3) OVER (ORDER BY total_sales DESC) AS sales_bucket,
12          NTILE(3) OVER (ORDER BY total_transactions DESC) AS txn_bucket
13      FROM daily_totals
14  )
```

```sql
15    SELECT
16        sales_date,
17        total_sales,
18        total_transactions,
19  ⊖     CASE
20            WHEN GREATEST(sales_bucket, txn_bucket) = 3 THEN 'Good'
21            WHEN GREATEST(sales_bucket, txn_bucket) = 2 THEN 'Bad'
22            ELSE 'Worst'
23        END AS activity_type
24    FROM ranked_totals
25    ORDER BY sales_date;
```

Output:

sales_date	total_sales	total_transactions	activity_type
2024-01-01	241973.00	654	Good
2024-01-02	176197.00	744	Good
2024-01-03	269268.00	778	Worst
2024-01-04	271056.00	640	Good
2024-01-05	196218.00	850	Good
2024-01-06	238615.00	620	Good
2024-01-07	256331.00	530	Good
2024-01-08	207249.00	763	Good
2024-01-09	234248.00	594	Good
2024-01-10	230591.00	843	Bad
2024-01-11	205899.00	690	Good
2024-01-12	167465.00	606	Good
2024-01-13	226794.00	685	Good
2024-01-14	290105.00	729	Bad
2024-01-15	263865.00	809	Worst
2024-01-16	316404.00	813	Worst
2024-01-17	268961.00	764	Worst
2024-01-18	225794.00	660	Good
2024-01-19	193308.00	749	Good
2024-01-20	203684.00	774	Good
2024-01-21	258802.00	754	Bad
2024-01-22	265600.00	681	Bad
2024-01-23	195924.00	828	Good
2024-01-24	229961.00	697	Bad
2024-01-25	251299.00	794	Bad

Q2. New vs Existing User Analysis

MySql Script:

```sql
SELECT
    CASE
        WHEN new_user = 1 THEN 'New User'
        ELSE 'Existing User'
    END AS user_type,
    SUM(CAST(total_sales_amount AS DECIMAL(10,2))) AS total_sales,
    COUNT(DISTINCT shop_id) AS number_of_shops,
    SUM(CAST(subscription_purchased AS UNSIGNED)) AS total_subscriptions
FROM shop_activity
GROUP BY new_user
ORDER BY new_user DESC;
```

Output:

user_type	total_sales	number_of_shops	total_subscriptions
New User	5769975.00	189	139
Existing User	14313584.00	200	271

Q3. Subscription Conversion by Shop Type

MySql Script:

```sql
SELECT
    shop_type,
    SUM(CAST(subscription_purchased AS UNSIGNED)) AS total_subscriptions,
    COUNT(DISTINCT shop_id) AS total_shops,
    ROUND(
        SUM(CAST(subscription_purchased AS UNSIGNED)) / COUNT(DISTINCT shop_id) * 100,
        2
    ) AS subscription_conversion_rate_percentage
FROM shop_activity
GROUP BY shop_type
ORDER BY subscription_conversion_rate_percentage DESC;
```

Output:

shop_type	total_subscriptions	total_shops	subscription_conversion_rate_percentage
Grocery	158	194	81.44
Restaurant	114	184	61.96
Pharmacy	80	163	49.08
Electronics	58	159	36.48

Q4. City Performance

MySql Script:

```sql
1 • SELECT
2       city as Top_5_Cities,
3       SUM(CAST(total_sales_amount AS DECIMAL(10,2))) AS total_sales,
4       SUM(CAST(subscription_purchased AS UNSIGNED)) AS total_subscriptions,
5       COUNT(DISTINCT shop_id) AS total_shops
6   FROM shop_activity
7   WHERE CAST(subscription_purchased AS UNSIGNED) > 0
8   GROUP BY city
9   ORDER BY total_sales DESC
10  LIMIT 5;
```

Output:

Top_5_Cities	total_sales	total_subscriptions	total_shops
Chattogram	1130053.00	99	77
Khulna	850847.00	74	60
Sylhet	843488.00	88	70
Dhaka	776632.00	78	62
Rajshahi	629466.00	71	60

Section C: Business Insights