PROMOTIONAL CAMPAIGN ANALYSIS

ABOUT PROJECT

CONDUCT A COMPREHENSIVE ANALYSIS OF THE PROMOTIONAL DATA FROM DIWALI 2023 AND SANKRANTI 2024 ACROSS ALL ATLIQ MART, A FICTIONAL CORPORATION, SUPERMARKETS IN THE SOUTHERN REGION OF INDIA.

IDENTIFY SUCCESSFUL AND UNSUCCESSFUL PROMOTIONS TO PROVIDE ACTIONABLE INSIGHTS FOR FUTURE PROMOTIONAL STRATEGIES.

DEVELOP A SELF-EXPLANATORY AND VISUALLY APPEALING DASHBOARD TO PRESENT KEY METRICS AND ANALYSIS FOR EASY UNDERSTANDING BY STAKEHOLDERS, INCLUDING SALES DIRECTOR BRUCE HARYALI.

ADDRESS AD-HOC BUSINESS QUESTIONS POSED BY SENIOR EXECUTIVES USING SQL - BASED REPORT GENERATION, ENSURING RELEVANCE AND ACCURACY IN THE INSIGHTS PROVIDED.

CRAFT A PERSUASIVE PRESENTATION WITH ACTIONABLE INSIGHTS DERIVED FROM THE ANALYSIS, SUPPORTING DECISION-MAKING PROCESSES FOR UPCOMING PROMOTIONAL PERIODS, AND POTENTIALLY UNCOVER ADDITIONAL RESEARCH QUESTIONS FOR FURTHER EXPLORATION.

DATASET OVERVIEW

ATLIQMART ANALYSIS

STORE PERFORMANCE ANALYSIS

PROMOTIONAL ANALYSIS

CATEGORY & PRODUCT ANALYSIS

AD-HOC REQUESTS

KEY FINDINGS

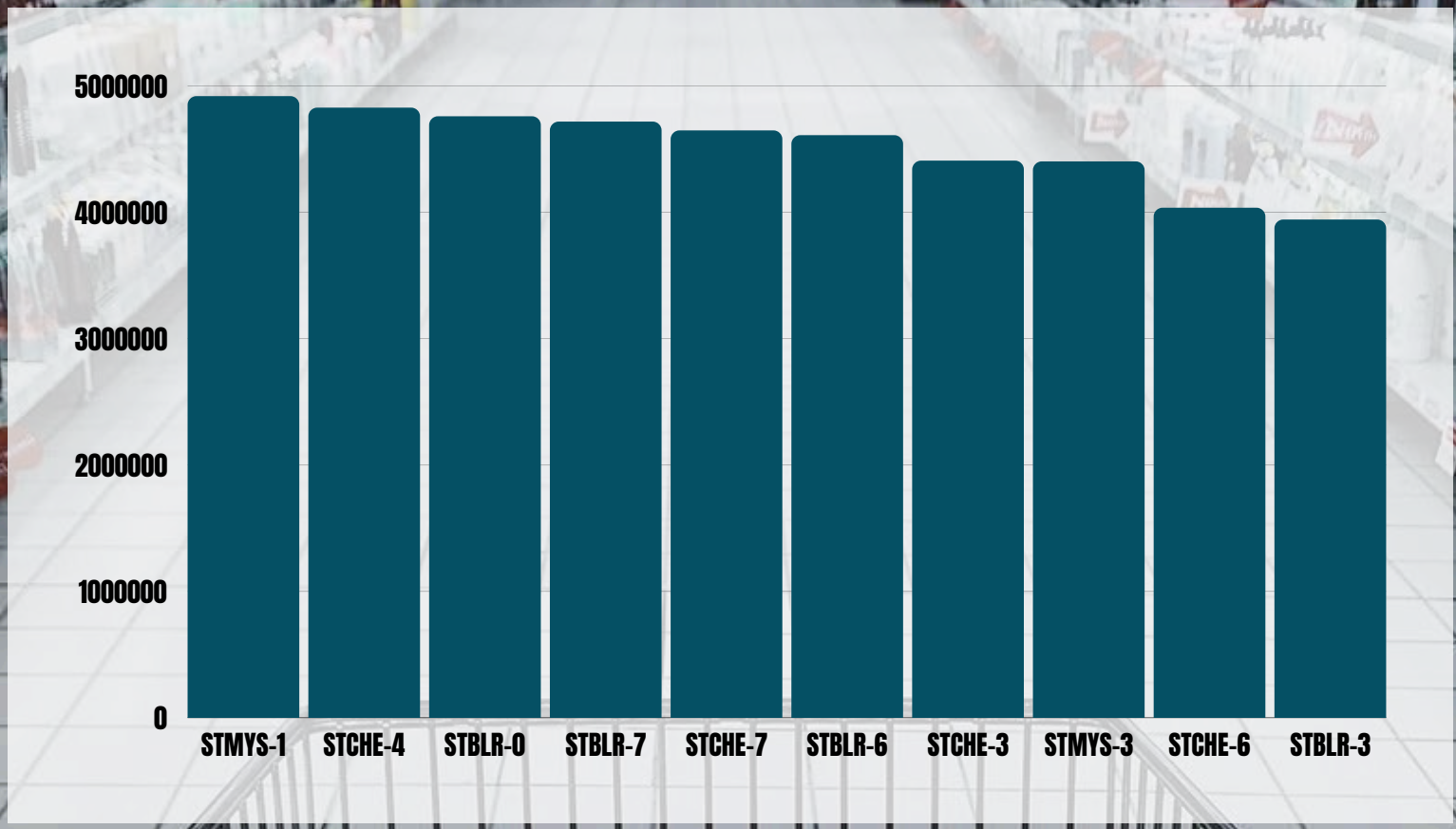
RECOMMANDATION

STORE PERFORMANCE ANALYSIS

WHICH ARE THE TOP 10 STORES IN TERMS OF INCREMENTAL REVENUE(IR) GENERATED FROM THE PROMOTIONS?

```sql
USE retail_events_db;

SELECT
    ds.store_id,
    ds.city,
    (SUM(fe.quantity_sold_after_promo * fe.promo_price) - SUM(fe.quantity_sold_before_promo * fe.base_price)) AS IR
FROM
    fact_events fe
JOIN
    dim_stores ds ON fe.store_id = ds.store_id
GROUP BY
    ds.store_id, ds.city
ORDER BY
    IR DESC
LIMIT 10;
```

store_id	city	IR
STMYS-1	Mysuru	4918870
STCHE-4	Chennai	4827734
STBLR-0	Bengaluru	4759386
STBLR-7	Bengaluru	4717240
STCHE-7	Chennai	4647502
STBLR-6	Bengaluru	4609934
STCHE-3	Chennai	4408407
STMYS-3	Mysuru	4402160
STCHE-6	Chennai	4035593
STBLR-3	Bengaluru	3942203

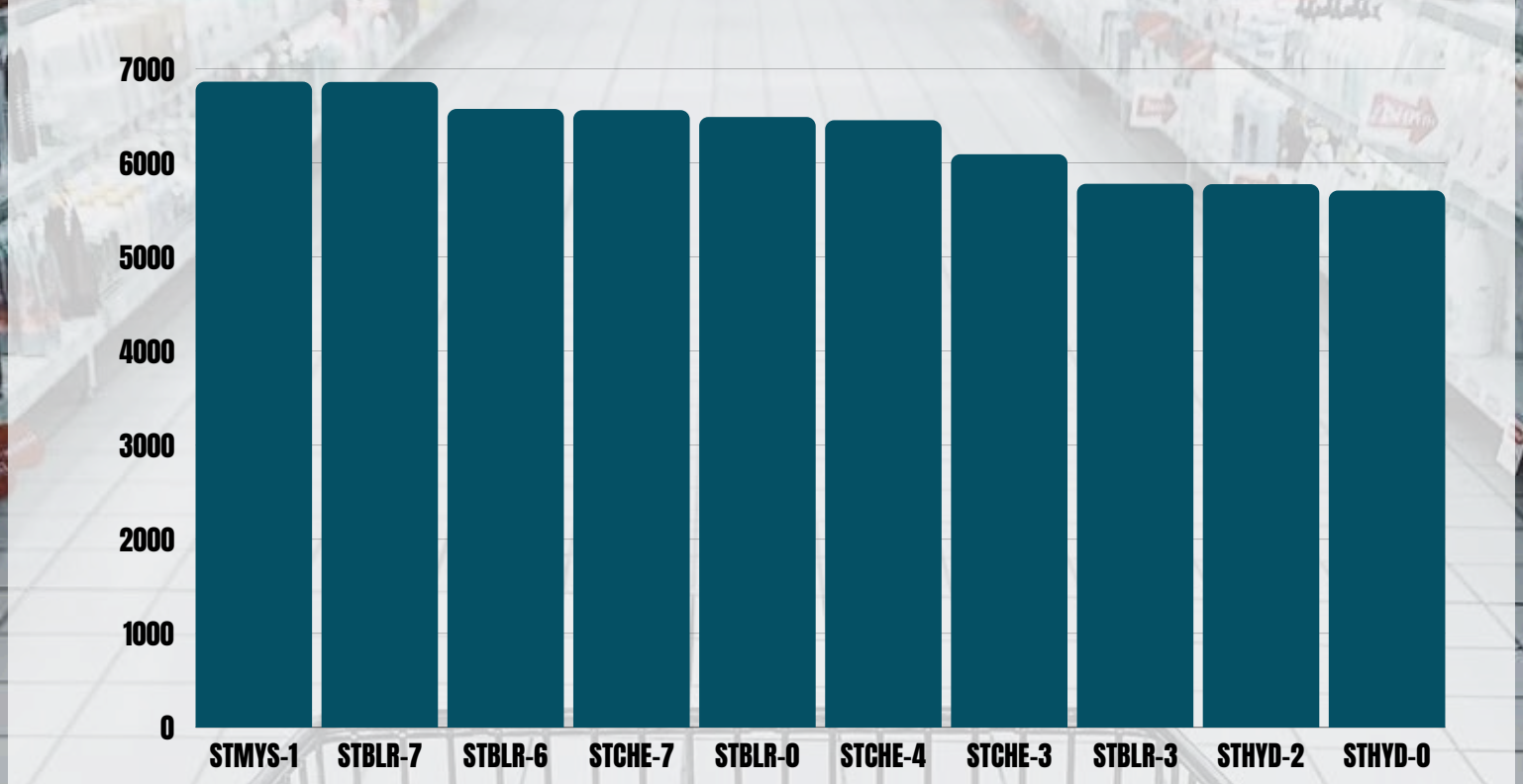


STORE PERFORMANCE ANALYSIS

WHICH ARE THE TOP 10 STORES IN TERMS OF INCREMENTAL SOLD UNITS(ISU) GENERATED FROM THE PROMOTIONS?

```sql
USE retail_events_db;

SELECT
    ds.store_id,
    ds.city,
    (SUM(fe.quantity_sold_after_promo) - SUM(fe.quantity_sold_before_promo)) AS ISU
FROM
    fact_events fe
JOIN
    dim_stores ds ON fe.store_id = ds.store_id
GROUP BY
    ds.store_id, ds.city
ORDER BY
    ISU DESC
LIMIT 10;
```

store_id	city	ISU
STMYS-1	Mysuru	6862
STBLR-7	Bengaluru	6859
STBLR-6	Bengaluru	6573
STCHE-7	Chennai	6560
STBLR-0	Bengaluru	6487
STCHE-4	Chennai	6453
STCHE-3	Chennai	6091
STBLR-3	Bengaluru	5777
STHYD-2	Hyderabad	5773
STHYD-0	Hyderabad	5705

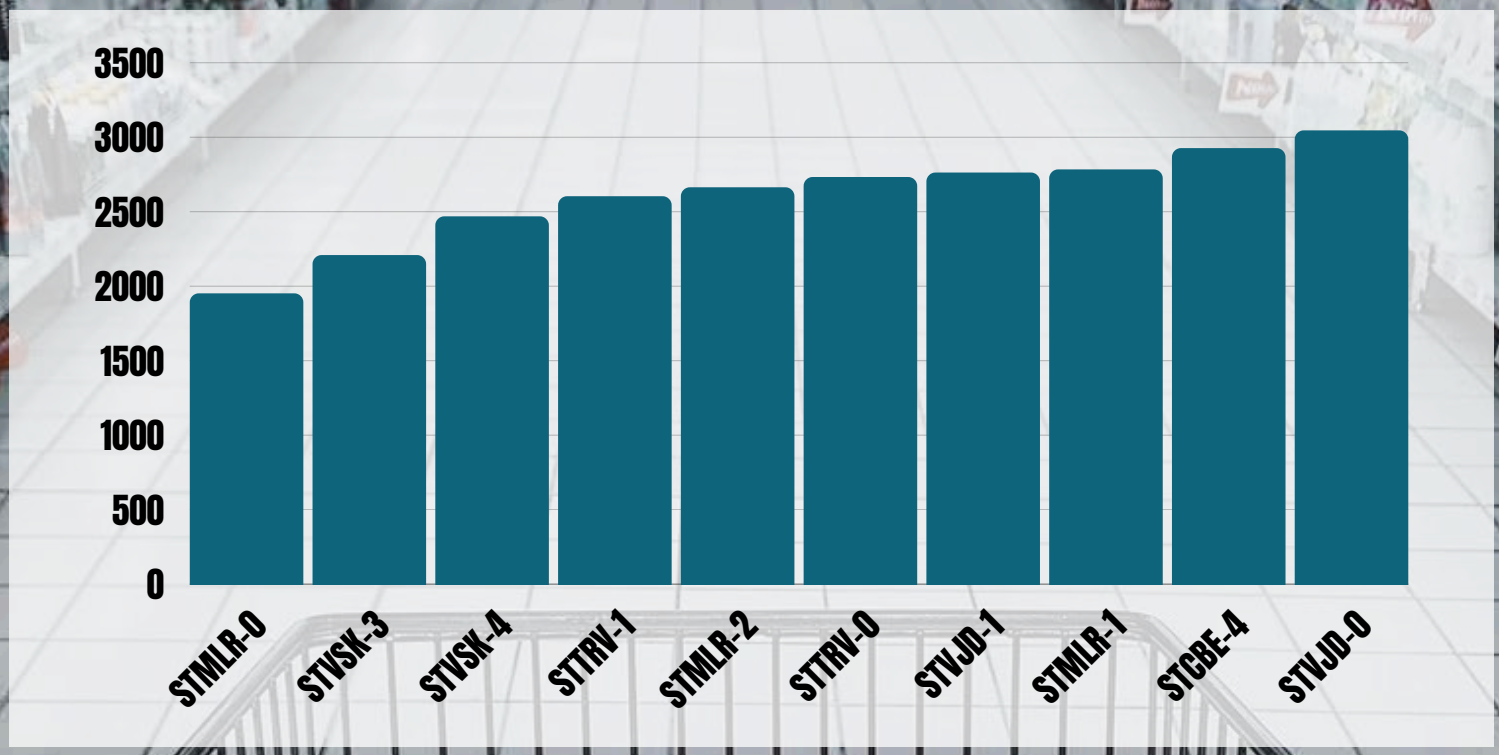


STORE PERFORMANCE ANALYSIS

WHICH ARE THE BOTTOM 10 STORES WHEN IT COMES TO INCREMENTAL SOLD UNITS (ISU) DURING THE PROMOTIONAL PERIOD?

```sql
USE retail_events_db;

SELECT
    ds.store_id,
    ds.city,
    (SUM(fe.quantity_sold_after_promo) - SUM(fe.quantity_sold_before_promo)) AS ISU
FROM
    fact_events fe
JOIN
    dim_stores ds ON fe.store_id = ds.store_id
GROUP BY
    ds.store_id, ds.city
ORDER BY
    ISU ASC
LIMIT 10;
```

store_id	city	ISU
STMLR-0	Mangalore	1952
STVSK-3	Visakhapatnam	2209
STVSK-4	Visakhapatnam	2469
STTRV-1	Trivandrum	2604
STMLR-2	Mangalore	2664
STTRV-0	Trivandrum	2733
STVJD-1	Vijayawada	2763
STMLR-1	Mangalore	2784
STCBE-4	Coimbatore	2927
STVJD-0	Vijayawada	3046

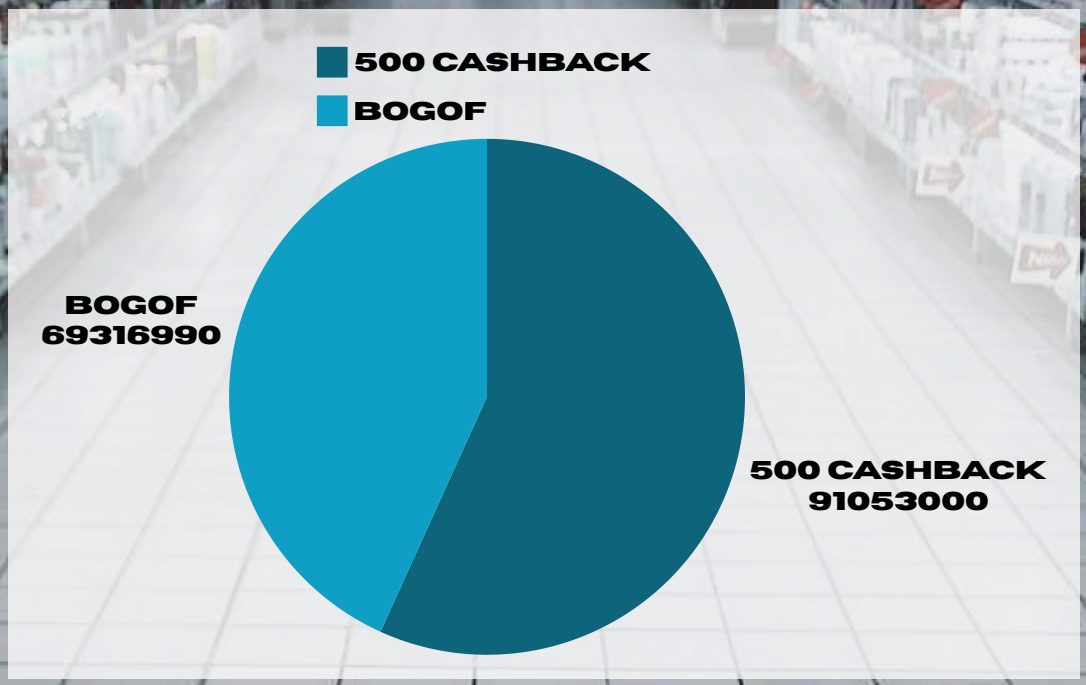


PROMOTIONAL ANALYSIS

WHAT ARE THE TOP 2 PROMOTION TYPES THAT RESULTED IN THE HIGHEST INCREMENTAL REVENUE?

```sql
USE retail_events_db;

SELECT
    fe.promo_type,
    SUM(fe.quantity_sold_after_promo * fe.promo_price - fe.quantity_sold_before_promo * fe.base_price) AS total_IR
FROM
    fact_events fe
GROUP BY
    fe.promo_type
ORDER BY
    total_IR DESC
LIMIT 2;
```

promo_type	total_IR
500 Cashback	91053000
BOGOF	69316990

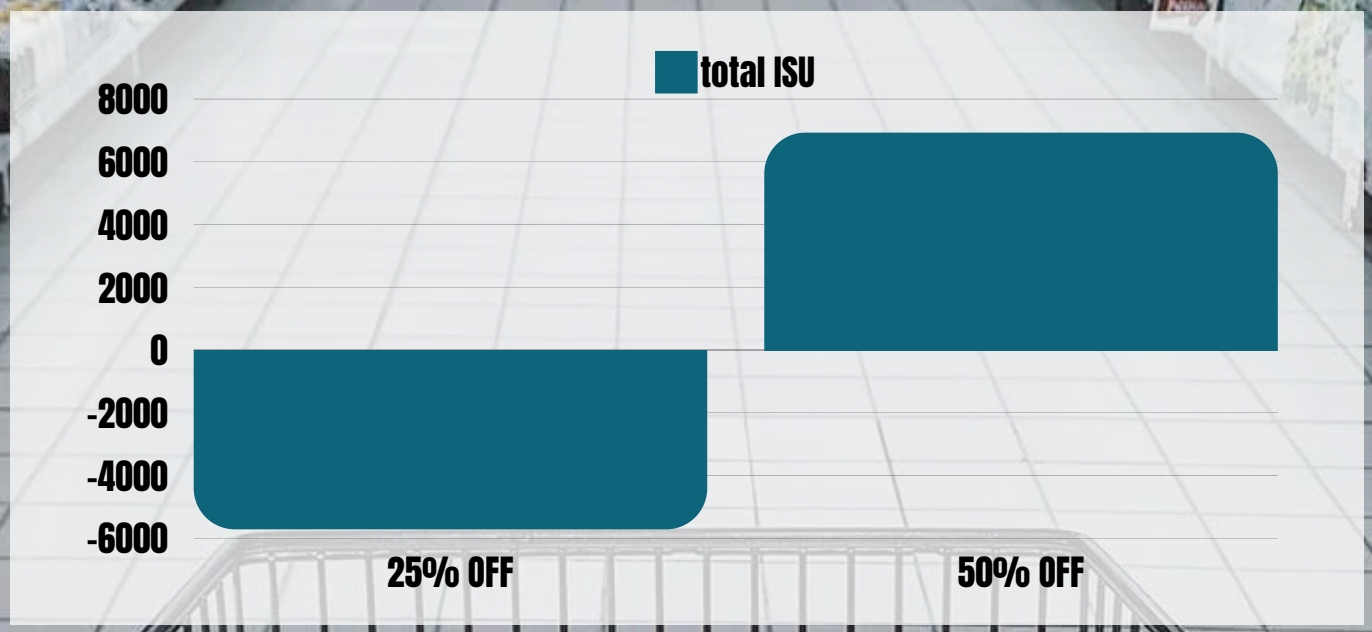


PROMOTIONAL ANALYSIS

WHAT ARE THE BOTTOM 2 PROMOTION TYPES IN TERMS OF THEIR IMPACT ON INCREMENTAL SOLD UNITS?

```sql
USE retail_events_db;

SELECT
    fe.promo_type,
    SUM(fe.quantity_sold_after_promo - fe.quantity_sold_before_promo) AS total_ISU
FROM
    fact_events fe
WHERE
    fe.promo_type IS NOT NULL
GROUP BY
    fe.promo_type
ORDER BY
    total_ISU ASC
LIMIT 2;
```

promo_type	total_ISU
25% OFF	-5717
50% OFF	6931

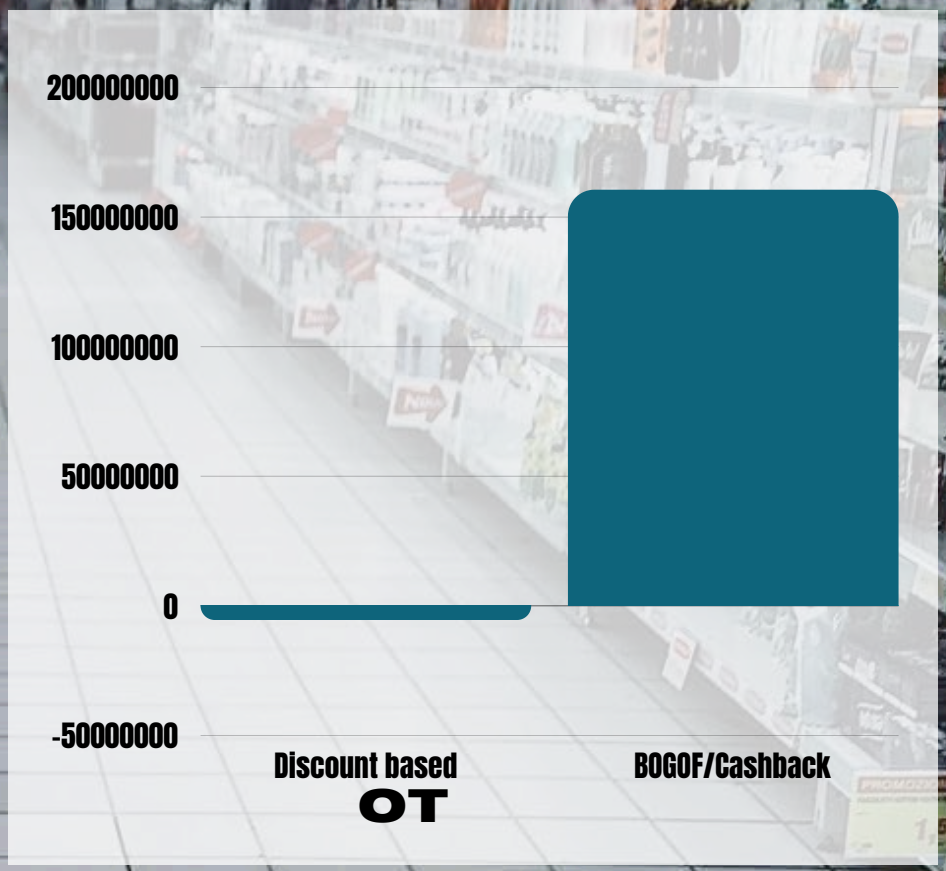


PROMOTIONAL ANALYSIS

IS THERE A SIGNIFICANT DIFFERENCE IN THE PERFORMANCE OF DISCOUNT-BASED PROMOTIONS VERSUS BOGOF (BUY ONE GET ONE FREE) OR CASHBACK PROMOTIONS?

```sql
USE retail_events_db;

-- Calculate ISU and IR for discount-based promotions
WITH Discount_Promotions AS (
    SELECT
        fe.promo_type,
        SUM(fe.quantity_sold_after_promo - fe.quantity_sold_before_promo) AS total_ISU,
        SUM((fe.quantity_sold_after_promo * fe.promo_price) - (fe.quantity_sold_before_promo * fe.base_price)) AS total_IR
    FROM
        fact_events fe
    WHERE
        fe.promo_type LIKE '%off%' -- Assuming discount-based promotions have 'off' in their names
    GROUP BY
        fe.promo_type
),

-- Calculate ISU and IR for BOGOF and cashback promotions
NonDiscount_Promotions AS (
    SELECT
        fe.promo_type,
        SUM(fe.quantity_sold_after_promo - fe.quantity_sold_before_promo) AS total_ISU,
        SUM((fe.quantity_sold_after_promo * fe.promo_price) - (fe.quantity_sold_before_promo * fe.base_price)) AS total_IR
    FROM
        fact_events fe
    WHERE
        fe.promo_type NOT LIKE '%off%' -- Exclude discount-based promotions
    GROUP BY
        fe.promo_type
)

-- Combine the results of discount-based and non-discount promotions
SELECT
    'Discount-Based' AS promotion_type,
    SUM(total_ISU) AS total_ISU_discount,
    SUM(total_IR) AS total_IR_discount
FROM
    Discount_Promotions

UNION

SELECT
    'BOGOF/Cashback' AS promotion_type,
    SUM(total_ISU) AS total_ISU_nondiscount,
    SUM(total_IR) AS total_IR_nondiscount
FROM
    NonDiscount_Promotions;
```

promotion_type	total_ISU_discount	total_IR_discount
Discount-Based	28469	-5475461
BOGOF/Cashback	197954	160369990

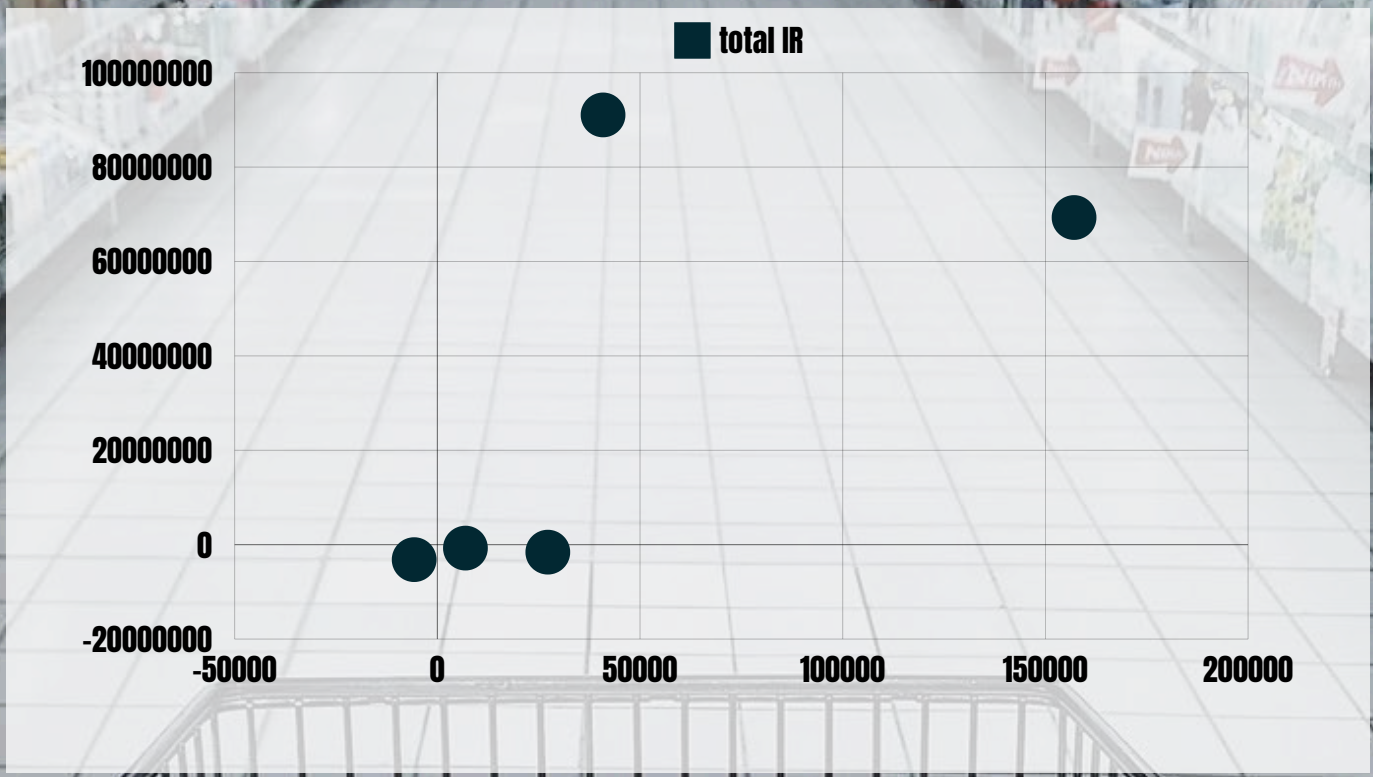


PROMOTIONAL ANALYSIS

WHICH PROMOTIONS STRIKE THE BEST BALANCE BETWEEN INCREMENTAL SOLD UNITS AND MAINTAINING HEALTHY MARGINS?

```sql
USE retail_events_db;

-- Calculate ISU and IR for each promotion type
WITH Promotion_Performance AS (
    SELECT
        fe.promo_type,
        SUM(fe.quantity_sold_after_promo - fe.quantity_sold_before_promo) AS total_ISU,
        SUM((fe.quantity_sold_after_promo * fe.promo_price) - (fe.quantity_sold_before_promo * fe.base_price)) AS total_IR
    FROM
        fact_events fe
    GROUP BY
        fe.promo_type
)

-- Calculate ISU to IR ratio for each promotion type
SELECT
    promo_type,
    total_ISU,
    total_IR,
    ROUND(total_ISU / NULLIF(total_IR, 0), 2) AS ISU_to_IR_Ratio
FROM
    Promotion_Performance
ORDER BY
    ISU_to_IR_Ratio DESC;
```

promo_type	total_ISU	total_IR	ISU_to_IR_Ratio
25% OFF	-5717	-3169109	0.00
BOGOF	157073	69316990	0.00
500 Cashback	40881	91053000	0.00
50% OFF	6931	-723387	-0.01
33% OFF	27255	-1582965	-0.02

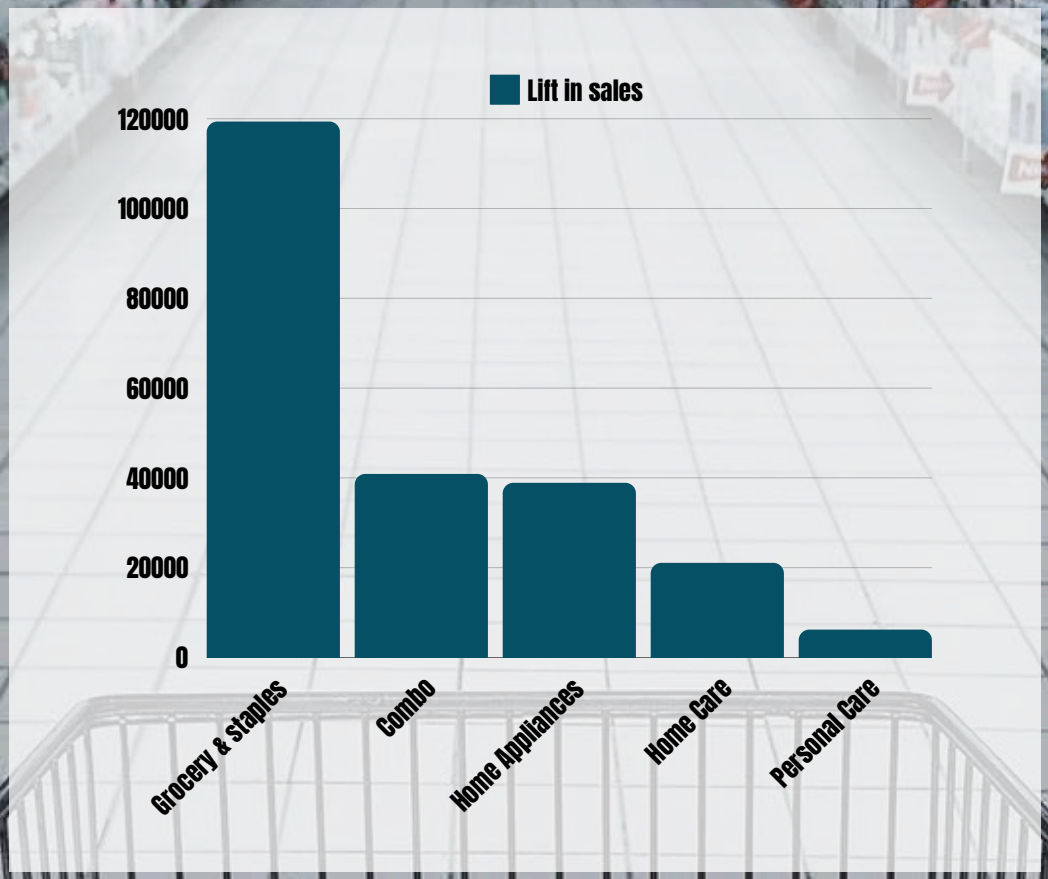


PRODUCT & CATEGORY ANALYSIS

WHICH PRODUCT CATEGORIES SAW THE MOST SIGNIFICANT LIFT IN SALES FROM THE PROMOTIONS?

```sql
USE retail_events_db;

-- Calculate the lift in sales for each product category
SELECT
    dp.category,
    SUM(fe.quantity_sold_after_promo - fe.quantity_sold_before_promo) AS lift_in_sales
FROM
    fact_events fe
JOIN
    dim_products dp ON fe.product_code = dp.product_code
GROUP BY
    dp.category
ORDER BY
    lift_in_sales DESC;
```

category	lift_in_sales
Grocery & Staples	119374
Combo1	40881
Home Appliances	38900
Home Care	21068
Personal Care	6200

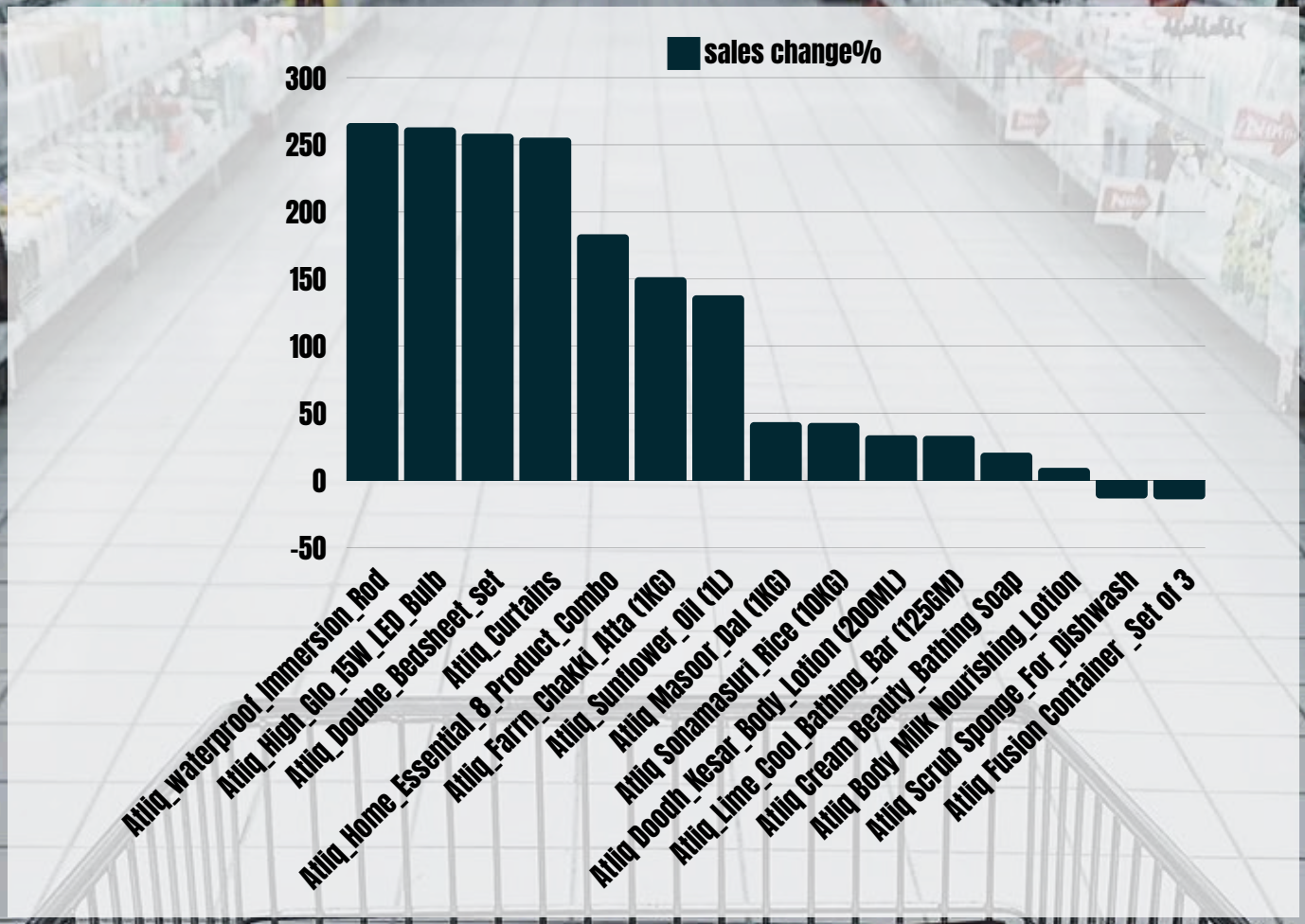


PRODUCT & CATEGORY ANALYSIS

ARE THERE SPECIFIC PRODUCTS THAT RESPOND EXCEPTIONALLY WELL OR POORLY TO PROMOTIONS?

```sql
USE retail_events_db;

-- Calculate the percentage change in sales for each product
SELECT
    dp.product_name,
    (SUM(fe.quantity_sold_after_promo) - SUM(fe.quantity_sold_before_promo)) / SUM(fe.quantity_sold_before_promo) * 100 AS sales_change_percentage
FROM
    fact_events fe
JOIN
    dim_products dp ON fe.product_code = dp.product_code
GROUP BY
    dp.product_name
ORDER BY
    sales_change_percentage DESC;
```

product_name	sales_change_percenta...
Atliq_waterproof_Immersion_Rod	266.1874
Atliq_High_Glo_15W_LED_Bulb	262.9836
Atliq_Double_Bedsheet_set	258.2679
Atliq_Curtains	255.3354
Atliq_Home_Essential_8_Product_Combo	183.3311
Atliq_Farm_Chakki_Atta (1KG)	151.3605
Atliq_Sunflower_Oil (1L)	137.8805
Atliq_Masoor_Dal (1KG)	43.3986
Atliq_Sonamasuri_Rice (10KG)	42.7939
Atliq_Doodh_Kesar_Body_Lotion (200ML)	33.5743
Atliq_Lime_Cool_Bathing_Bar (125GM)	33.1951
Atliq_Cream_Beauty_Bathing_Soap (12...	20.6426
Atliq_Body_Milk_Nourishing_Lotion (120...	9.3461
Atliq_Scrub_Sponge_For_Dishwash	-13.4849
Atliq_Fusion_Container_Set_of_3	-14.1156

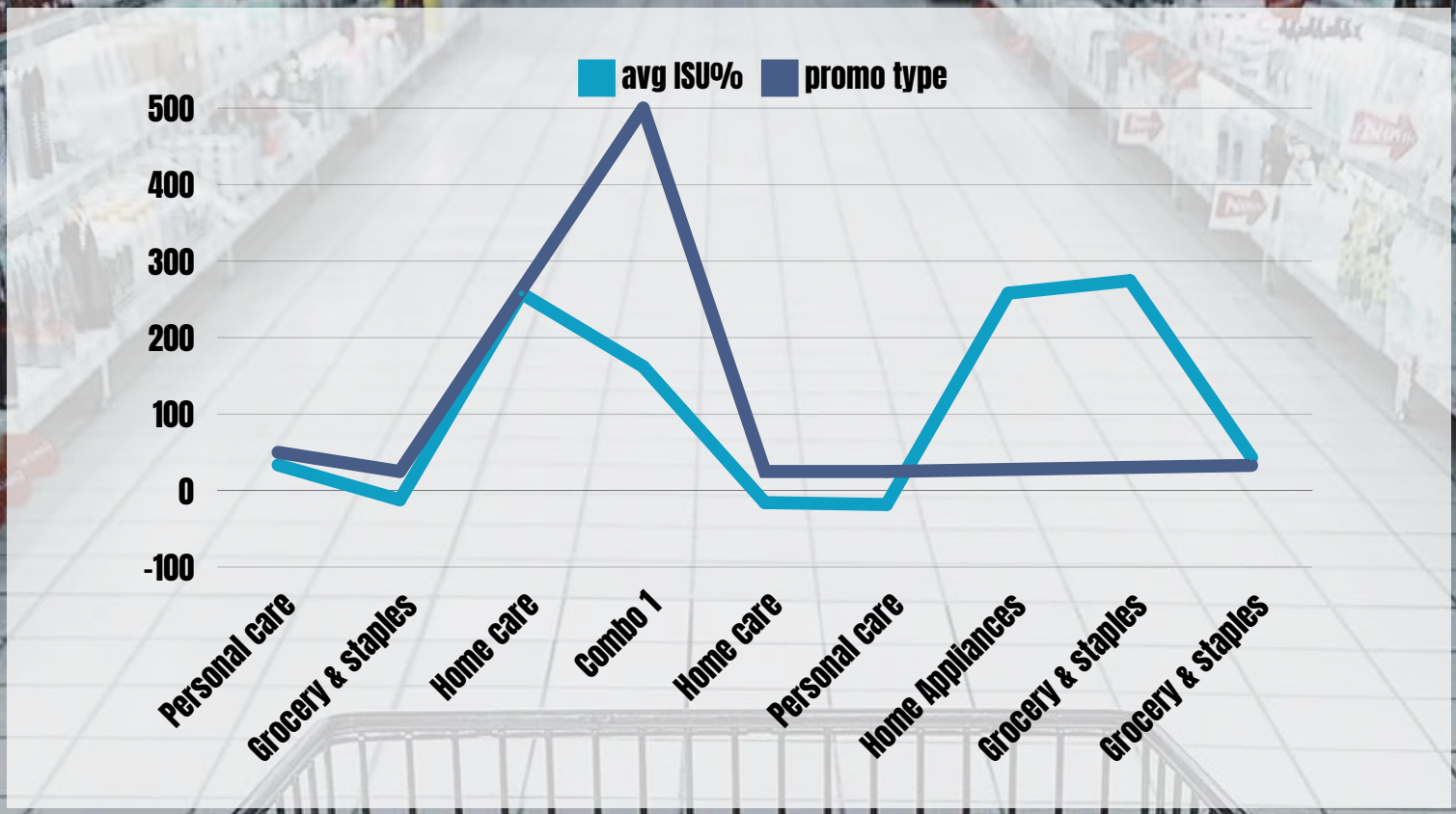


PRODUCT & CATEGORY ANALYSIS

WHAT IS THE CORRELATION BETWEEN PRODUCT CATEGORY AND PROMOTION TYPE EFFECTIVENESS?

```sql
USE retail_events_db;

-- Calculate the average ISU% for each combination of product category and promotion type
SELECT
    dp.category,
    fe.promo_type,
    AVG((fe.quantity_sold_after_promo - fe.quantity_sold_before_promo) / fe.quantity_sold_before_promo * 100) AS avg_ISU_percentage
FROM
    fact_events fe
JOIN
    dim_products dp ON fe.product_code = dp.product_code
GROUP BY
    dp.category, fe.promo_type;
```

category	promo_type	avg_ISU_percenta...
Personal Care	50% OFF	33.48922433
Grocery & Staples	25% OFF	-12.05657300
Home Care	BOGOF	257.76309450
Combo1	500 Cashback	162.17094200
Home Care	25% OFF	-15.66426300
Personal Care	25% OFF	-18.21932400
Home Appliances	BOGOF	258.06534300
Grocery & Staples	BOGOF	274.45765100
Grocery & Staples	33% OFF	43.26648700



AD-HOC REQUESTS EVALUATION.

THE SENIOR EXECUTIVES OF ATLIQ MART NEED SQL-BASED REPORTS TO ADDRESS CRITICAL BUSINESS INQUIRIES.

1. PROVIDE A LIST OF PRODUCTS WITH BASE PRICE GREATER THAN 500 AND THAT ARE FEATURED IN PROMO TYPE OF 'BOGOF'(BUY ONE GET ONE FREE).

```sql
SELECT dp.product_code, dp.product_name ,fe.base_price, fe.promo_type
FROM retail_events_db.fact_events fe
JOIN retail_events_db.dim_products dp ON fe.product_code = dp.product_code
WHERE fe.base_price > 500
AND fe.promo_type = 'BOGOF'
LIMIT 2;
```

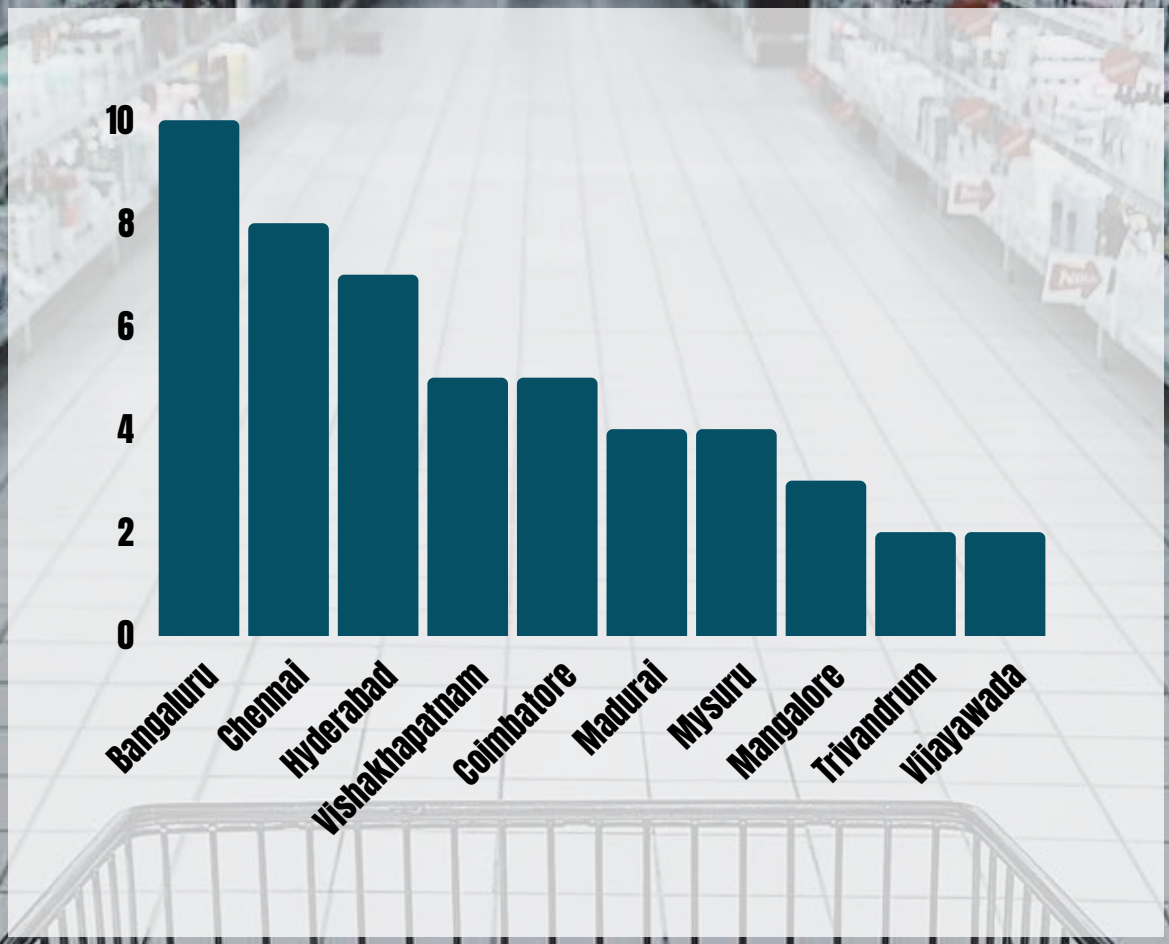
product_co...	product_name	base_price	promo_type
P08	Atliq_Double_Bedsheet_set	1190	BOGOF
P14	Atliq_waterproof_Immersion_Rod	1020	BOGOF

2. GENERATE A REPORT THAT PROVIDES AN OVERVIEW OF THE NUMBER OF STORES IN EACH CITY.THE RESULTS WILL BE SORTED IN DESCENDING ORDER OF STORE COUNTS, ALLOWING US TO IDENTIFY THE CITIES WITH THE HIGHEST STORE PRESENCE.

```sql
SELECT city, COUNT(store_id) AS store_count
FROM retail_events_db.dim_stores
GROUP BY city
ORDER BY store_count DESC;
```

Result Grid | Filter Rows:

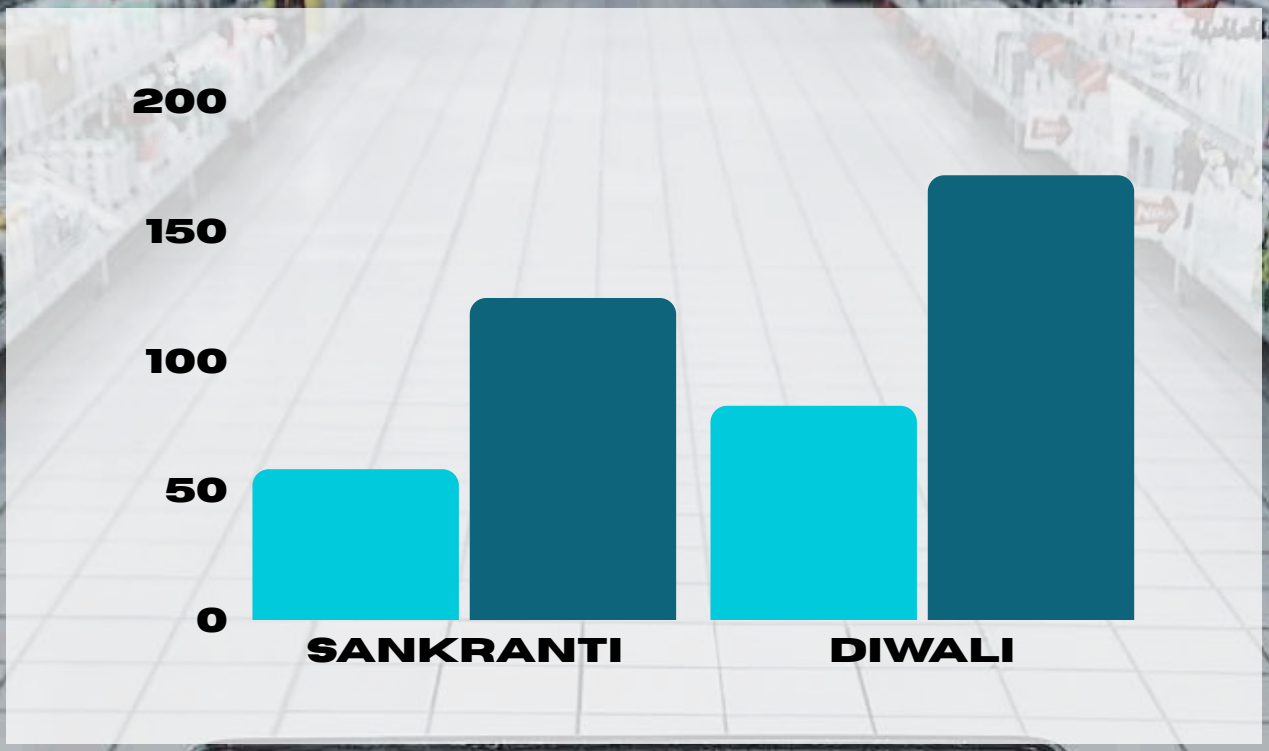
city	store_count
Bengaluru	10
Chennai	8
Hyderabad	7
Visakhapatnam	5
Coimbatore	5
Madurai	4
Mysuru	4
Mangalore	3
Trivandrum	2
Vijayawada	2



3. GENERATE A REPORT THAT DISPLAYS EACH CAMPAIGN ALONG WITH THE TOTAL REVENUE GENERATED BEFORE AND AFTER THE CAMPAIGN?

```sql
USE retail_events_db;

SELECT
    dc.campaign_name,
    CONCAT(FORMAT(SUM(fe.quantity_sold_before_promo * fe.base_price) / 1000000, 2), 'M') AS total_revenue_before_promo,
    CONCAT(FORMAT(SUM(fe.quantity_sold_after_promo * fe.promo_price) / 1000000, 2), 'M') AS total_revenue_after_promo
FROM
    dim_campaigns dc
JOIN
    fact_events fe ON dc.campaign_id = fe.campaign_id
GROUP BY
    dc.campaign_name;
```

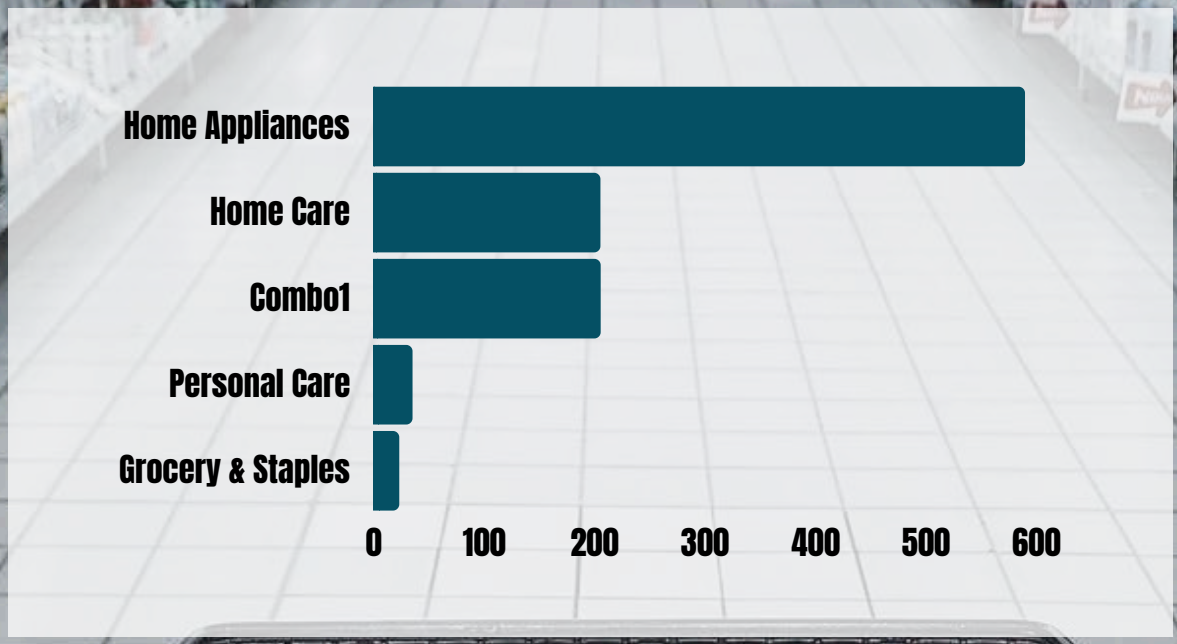
campaign_name	total_revenue_before_promo	total_revenue_after_promo
Sankranti	58.13M	124.14M
Diwali	82.57M	171.46M



4.. PRODUCE A REPORT THAT CALCULATES THE INCREMENTAL SOLD QUANTITY(ISU%) FOR EACH CATEGORY DURING THE DIWALI CAMPAIGN. ADDITIONALLY, PROVIDE RANKINGS FOR THE CATEGORIES BASED ON THEIR ISU%.

```sql
WITH Diwali_campaign_sale AS (
    SELECT
        category,
        ROUND(
            SUM(
                CASE
                    WHEN promo_type = 'BOGOF' THEN `quantity_sold_after_promo` * 2
                    ELSE `quantity_sold_after_promo`
                END - `quantity_sold_before_promo`
            ) * 100 / SUM(`quantity_sold_before_promo`),
            2
        ) AS `ISU%`
    FROM
        fact_events
    JOIN
        dim_products USING (product_code)
    JOIN
        dim_campaigns USING (campaign_id)
    WHERE
        campaign_name = 'Diwali'
    GROUP BY
        category
)

SELECT
    Category,
    `ISU%`,
    ROW_NUMBER() OVER (ORDER BY `ISU%` DESC) AS rank_order
FROM
    Diwali_campaign_sale;
```

Category	ISU%	rank_order
Home Appliances	588.45	1
Home Care	203.14	2
Combo1	202.36	3
Personal Care	31.06	4
Grocery & Staples	18.05	5

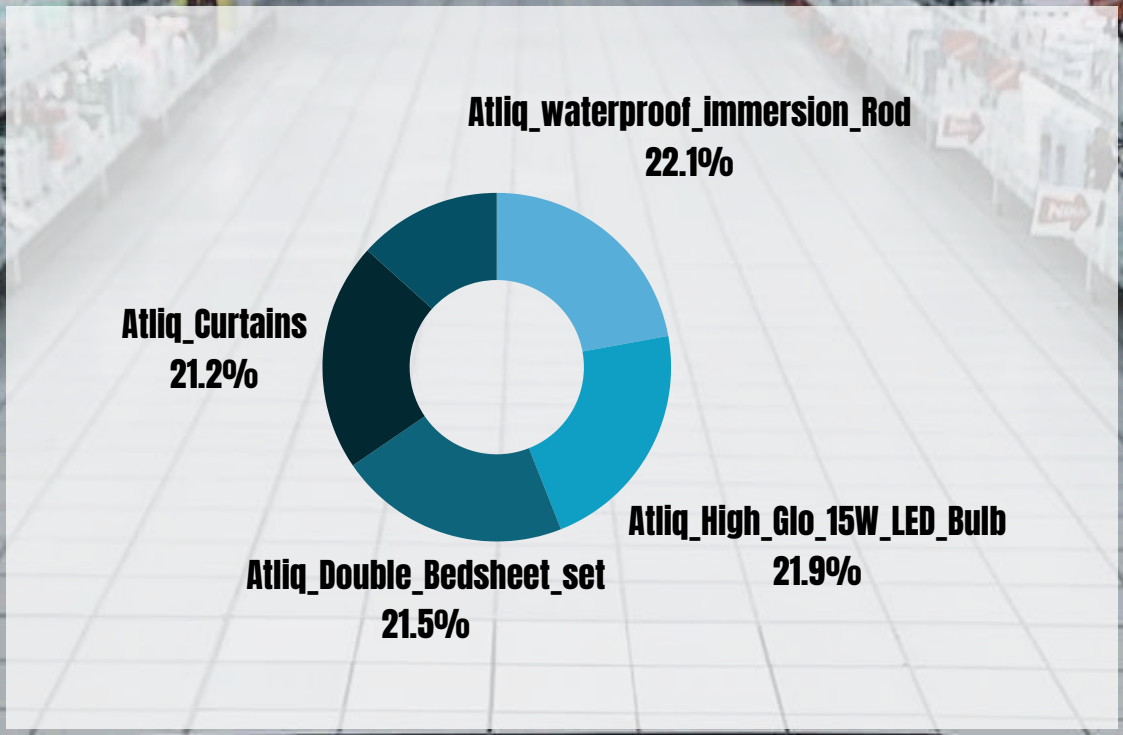


5. GENERATE A REPORT THAT DISPLAYS EACH CAMPAIGN ALONG WITH THE TOTAL REVENUE GENERATED BEFORE AND AFTER THE CAMPAIGN?

```sql
USE retail_events_db;

SELECT
    dp.product_name,
    dp.category,
    (SUM(fe.quantity_sold_after_promo * fe.promo_price) - SUM(fe.quantity_sold_before_promo * fe.base_price)) /
    SUM(fe.quantity_sold_before_promo * fe.base_price) * 100 AS IR_percentage
FROM
    fact_events fe
JOIN
    dim_products dp ON fe.product_code = dp.product_code
GROUP BY
    fe.product_code, dp.product_name, dp.category
ORDER BY
    IR_percentage DESC
LIMIT 5;
```

Result Grid | Filter Rows: Search | Export:

product_name	category	IR_percentage
Atliq_waterproof_Immersion_Rod	Home Appliances	266.1874
Atliq_High_Glo_15W_LED_Bulb	Home Appliances	262.9836
Atliq_Double_Bedsheet_set	Home Care	258.2679
Atliq_Curtains	Home Care	255.3354
Atliq_Farm_Chakki_Atta (1KG)	Grocery & Staples	160.0617



STORES INSIGHTS

FOCUS ON CATEGORIES THAT MAKE THE MOST EXTRA MONEY, LIKE COMBO 1 GROCERY, & STAPLES, AND HOME APPLIANCES.
CONCENTRATE ON CITIES WHERE WE'RE MAKING THE MOST EXTRA MONEY, SUCH AS MADURAI, CHENNAI, AND BENGALURU.

PROMOTION TYPE INSIGHTS

USE PROMOTIONS LIKE 500 CASHBACK AND BOGOF (BUY ONE GET ONE FREE) MORE BECAUSE THEY BOOST SALES AND REVENUE.
STAY AWAY FROM DISCOUNT PROMOTIONS, ESPECIALLY 25% OFF AND 33% OFF, AS THEY DON'T INCREASE REVENUE MUCH.
MAKE THE MOST OF DIWALI PROMOTIONS INSTEAD OF SANKRANTI BY IMPROVING OUR STRATEGIES FOR THIS IMPORTANT TIME.

PRODUCT AND CATEGORY ANALYSIS

PUT MORE EFFORT INTO CATEGORIES THAT MAKE THE MOST MONEY, LIKE HOME APPLIANCES AND HOME CARE.
ADVERTISE POPULAR PRODUCTS LIKE THE ATLIQ WATERPROOF IMMERSION ROD, ATLIQ LED BULB, AND ATLIQ
DOUBLE BEDSHEET SET TO BOOST REVENUE.