Marketing Analytics Business Case

Leonel Ale

Contents

Business problem

ShopEasy, an online retail business, is facing reduced customer engagement and conversion rates despite launching several new online marketing campaigns. They are reaching out to you to help conduct a detailed analysis and identify areas for improvement in their marketing strategies.

Key Points:

- **Reduced Customer Engagement:** The number of customer interactions and engagement with the site and marketing content has declined.
- **Decreased Conversion Rates:** Fewer site visitors are converting into paying customers.
- **High Marketing Expenses:** Significant investments in marketing campaigns are not yielding expected returns.
- **Need for Customer Feedback Analysis:** Understanding customer opinions about products and services is crucial for improving engagement and conversions.

Key Performance Indicators (KPIs)

Conversion Rate: Percentage of website visitors who make a purchase.

Customer Engagement Rate: Level of interaction with marketing content (clicks, likes, comments).

Average Order Value (AOV): Average amount spent by a customer per transaction.

Customer Feedback Score: Average rating from customer reviews.

Objectives

Increase Conversion Rates:

- **Goal:** Identify factors impacting the conversion rate and provide recommendations to improve it.
- **Insight:** Highlight key stages where visitors drop off and suggest improvements to optimize the conversion funnel.

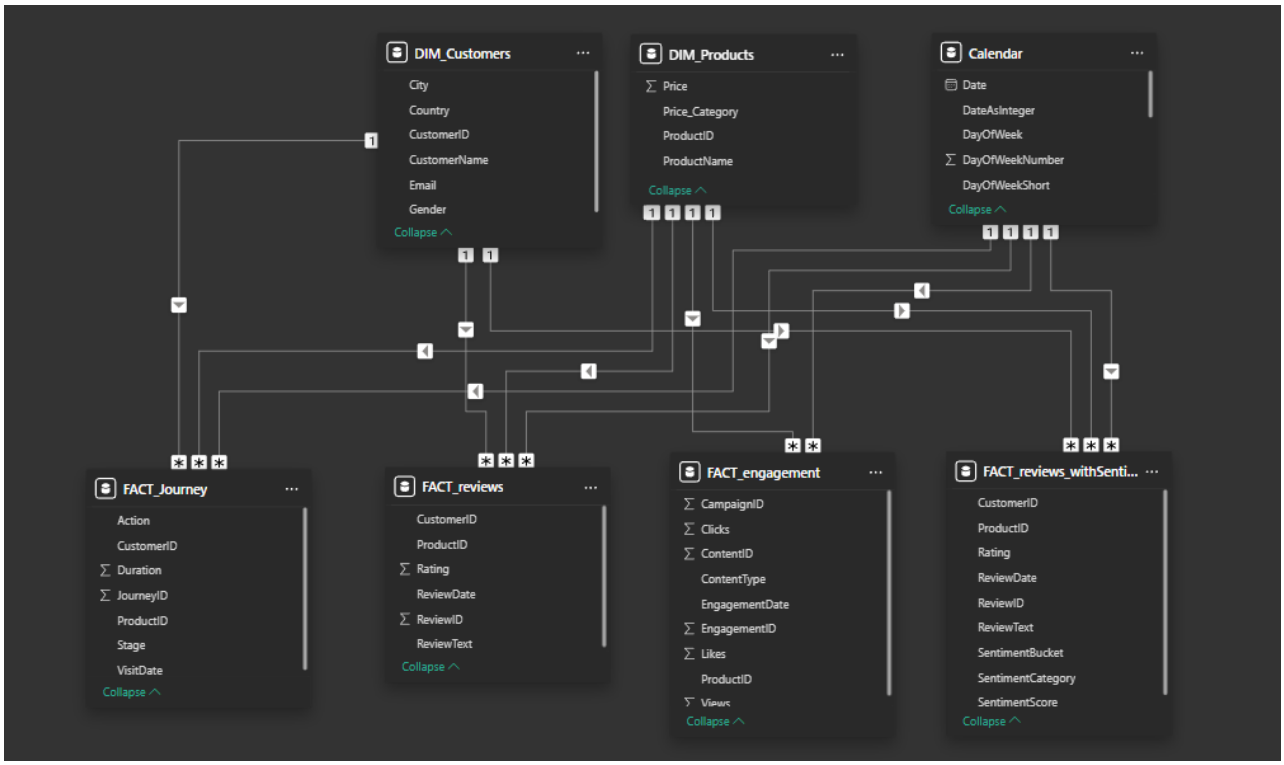
Enhance Customer Engagement:

- **Goal:** Determine which types of content drive the highest engagement.
- **Insight:** Analyze interaction levels with different types of marketing content to inform better content strategies.

Improve Customer Feedback Scores:

- **Goal:** Understand common themes in customer reviews and provide actionable insights.
- **Insight:** Identify recurring positive and negative feedback to guide product and service improvements.

Data structure



Dimensions tables (DIM)

- ### Customers

Contains information about the customers, including unique identifiers, names, contact details, and demographic data used to analyze customer behavior and preferences

- ### Products

Stores details about the products, such as product IDs, names, categories, prices, and other attributes essential for inventory and sales analysis.

- ### Calendar

Provides a comprehensive date structure, including years, months, weeks, and holidays, to support time-based analyses and reporting. This data wasn’t included in the data set, so I added it with DAX formulas.

Fact Tables

- ### Journey

Tracks customer journeys in digital marketing, including actions taken, customer IDs, journey IDs, product references, stages of the journey, visit dates, and duration of interactions. This data enables the analysis of user behavior, campaign performance, and customer flow through various marketing stages.

- ### Reviews

Holds customer feedback, including review IDs, product or service references, and ratings, providing insights into customer satisfaction and product performance.

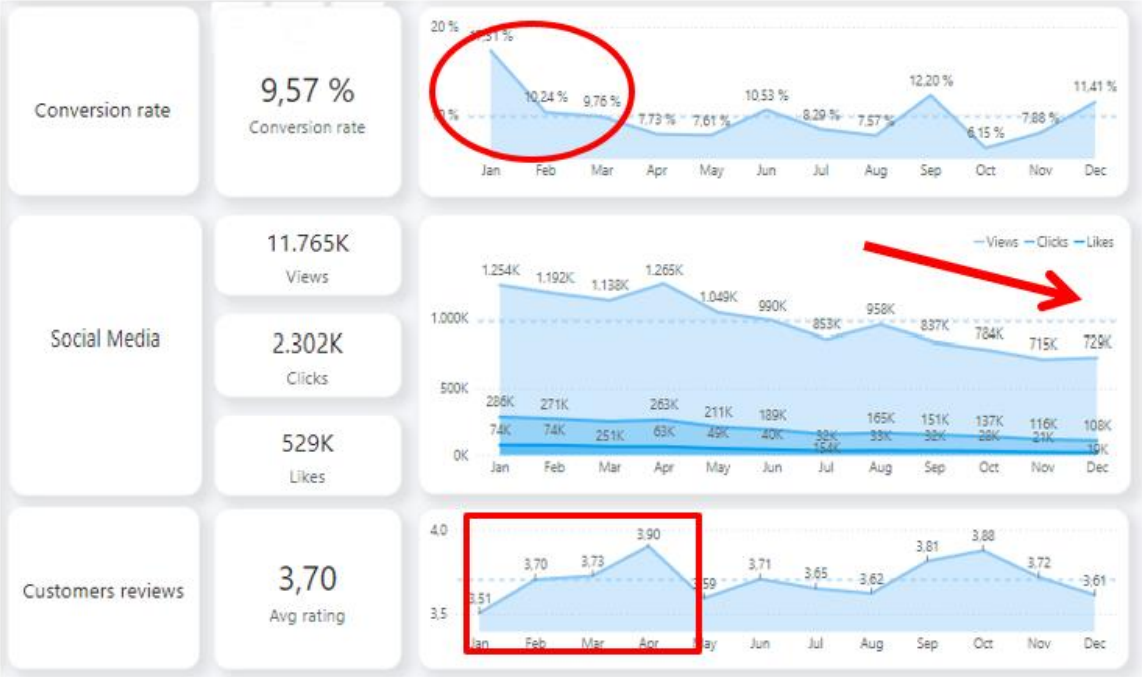
- ### Engagement

Tracks customer interactions across various channels, such as website visits, social media activity, and email campaigns, helping measure customer engagement levels.

- ### Review with sentiment

Extends the reviews data with sentiment analysis, including sentiment scores and classifications (e.g., positive, neutral, negative), offering deeper insights into customer opinions and trends.

Executive summary



Decreased Conversion Rates:

The conversion rate demonstrated a strong rebound in December, reaching 10.2%, despite a notable dip to 5.0% in October.

Reduced Customer Engagement:

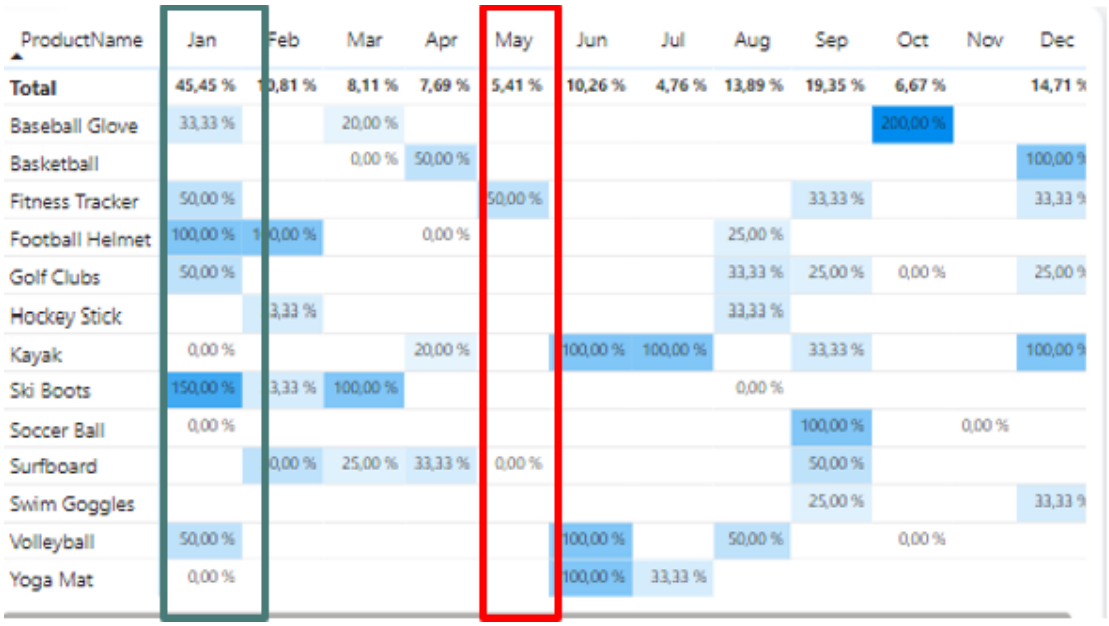
- There is a decline in overall social media engagement, with views dropping throughout the year.
- While clicks and likes are low compared to views, the click-through rate stands at 15.37%, meaning that engaged users are still interacting effectively.

Customer Feedback Analysis:

- Customer ratings have remained consistent, averaging around 3.7 throughout the year.
- Although stable, the average rating is below the target of 4.0, suggesting a need for focused improvements in customer satisfaction, for products below 3,5.

Key Insights

Decreased Conversion Rates



ProductName	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Total	**45,45 %**	**10,81 %**	**8,11 %**	**7,69 %**	**5,41 %**	**10,26 %**	**4,76 %**	**13,89 %**	**19,35 %**	**6,67 %**		**14,71 %**
Baseball Glove	33,33 %		20,00 %							200,00 %		
Basketball			0,00 %	50,00 %								100,00 %
Fitness Tracker	50,00 %				50,00 %				33,33 %			33,33 %
Football Helmet	100,00 %	100,00 %		0,00 %				25,00 %				
Golf Clubs	50,00 %							33,33 %	25,00 %	0,00 %		25,00 %
Hockey Stick		33,33 %						33,33 %				
Kayak	0,00 %			20,00 %		100,00 %	100,00 %		33,33 %			100,00 %
Ski Boots	150,00 %	33,33 %	100,00 %					0,00 %				
Soccer Ball	0,00 %								100,00 %		0,00 %	
Surfboard		0,00 %	25,00 %	33,33 %	0,00 %				50,00 %			
Swim Goggles									25,00 %			33,33 %
Volleyball	50,00 %					100,00 %		50,00 %		0,00 %		
Yoga Mat	0,00 %					100,00 %	33,33 %					

General Conversion Trend:

- Throughout the year, conversion rates varied, with higher numbers of products converting successfully in months like February and July. This suggests that while some products had strong seasonal peaks, there is potential to improve conversions in lower-performing months through targeted interventions.

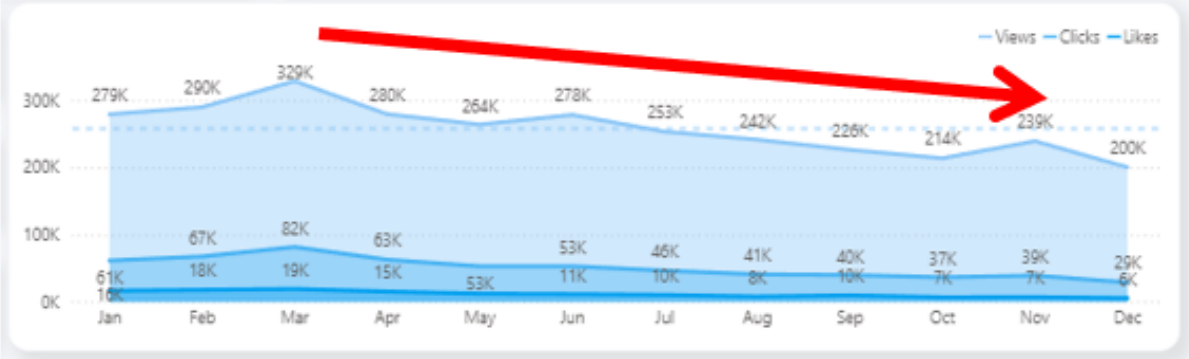
Lowest Conversion Month:

- May experienced the lowest overall conversion rate at 5,4%, with no products standing out significantly in terms of conversion. This indicates a potential need to revisit marketing strategies or promotions during this period to boost performance.

Highest Conversion Rates:

January recorded the highest overall conversion rate at 45.5%, driven significantly by the Ski Boots with a remarkable 150% conversion. This indicates a strong start to the year, likely fueled by seasonal demand and effective marketing strategies

Reduced Customer Engagement



Declining Views:

- Views peaked in February and July but declined from August and on, indicating reduced audience engagement in the later half of the year.

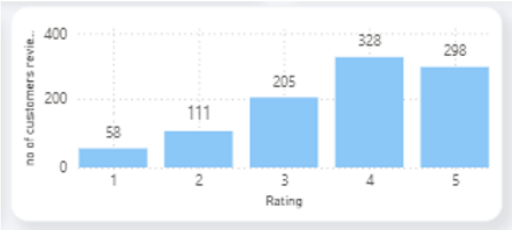
Low Interaction Rates:

- Clicks and likes remained consistently low compared to views, suggesting the need for more engaging content or stronger calls to action.

Content Type Performance:

- Blog content drove the most views, especially in April and July, while social media and video content maintained steady but slightly lower engagement.

Customer Feedback Analysis



Customer Ratings Distribution:

- The majority of customer reviews are in the higher ratings, with 140 reviews at 4 stars and 135 reviews at 5 stars, indicating overall positive feedback. Lower ratings (1-2 stars) account for a smaller proportion, with 26 reviews at 1 star and 57 reviews at 2 stars.

Sentiment Analysis:

- Positive sentiment dominates with 275 reviews, reflecting a generally satisfied customer base. Negative sentiment is present in 82 reviews, with a smaller number of mixed and neutral sentiments, suggesting some areas for improvement but overall strong customer approval.

Opportunity for Improvement:

- The presence of mixed positive and mixed negative sentiments suggests that there are opportunities to convert those mixed experiences into more clearly positive ones, potentially boosting overall ratings. Addressing the specific concerns in mixed reviews could elevate customer satisfaction.

Goals and Actions

Increase conversion rates

Goal

Identify factors impacting the conversion rate and provide recommendations to improve it.

Insight

Highlight key stages where visitors drop off and suggest improvements to optimize the conversion funnel.

Action

Target High-Performing Product Categories: Focus marketing efforts on products with demonstrated high conversion rates, such as Kayaks, Ski Boots, and Baseball Gloves. Implement seasonal promotions or personalized campaigns during peak months (e.g., January and September) to capitalize on these trends.

Enhance Customer Engagement

Goal

Determine which types of content drive the highest engagement

Insight

Analyze interaction levels with different types of marketing content to inform better content strategies.

Action

Revitalize Content Strategy: To turn around declining views and low interaction rates, experiment with more engaging content formats, such as interactive videos or user-generated content. Additionally, boost engagement by optimizing call-to-action placement in social media and blog content, particularly during historically lower-engagement months (September-December).

Increase conversion rates

Goal

Understand common themes in customer reviews and provide actionable insights

Insight

Identify recurring positive and negative feedback to guide product and service improvements.

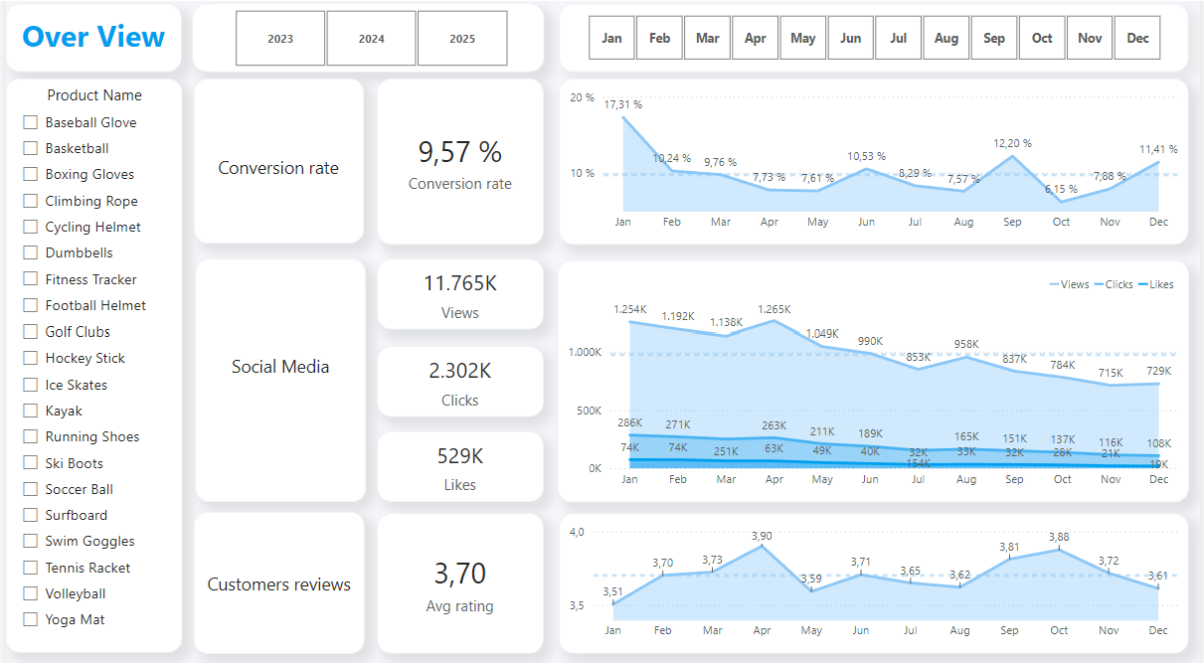
Action

Address Mixed and Negative Feedback: Implement a feedback loop where mixed and negative reviews are analyzed to identify common issues. Develop improvement plans to address these concerns. Consider following up with dissatisfied customers to resolve issues and encourage re-rating, aiming to move average ratings closer to the 4.0 target.

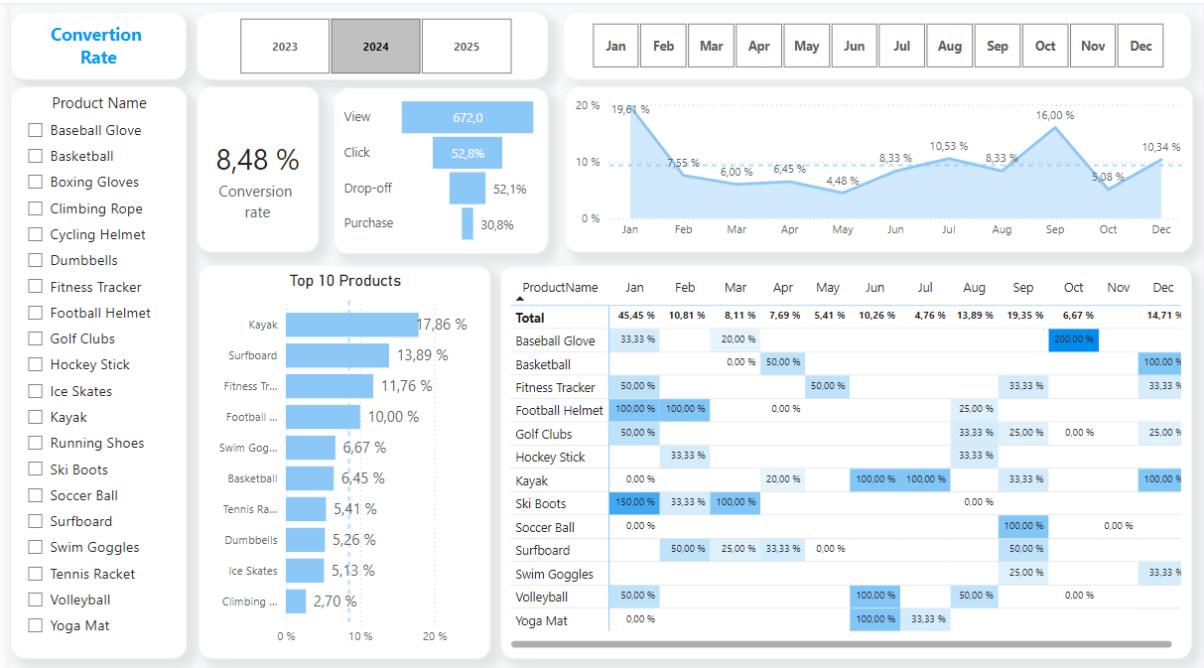
Dashboards Power BI

All dashboards can be filtered by year, months, or products.

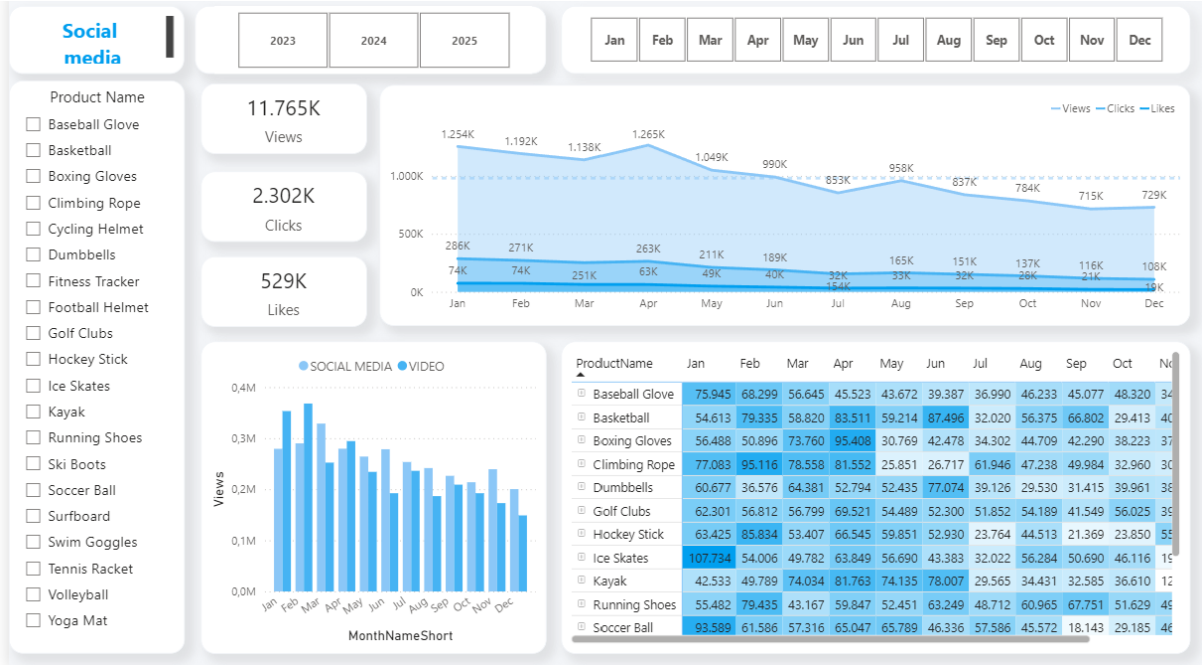
Overview



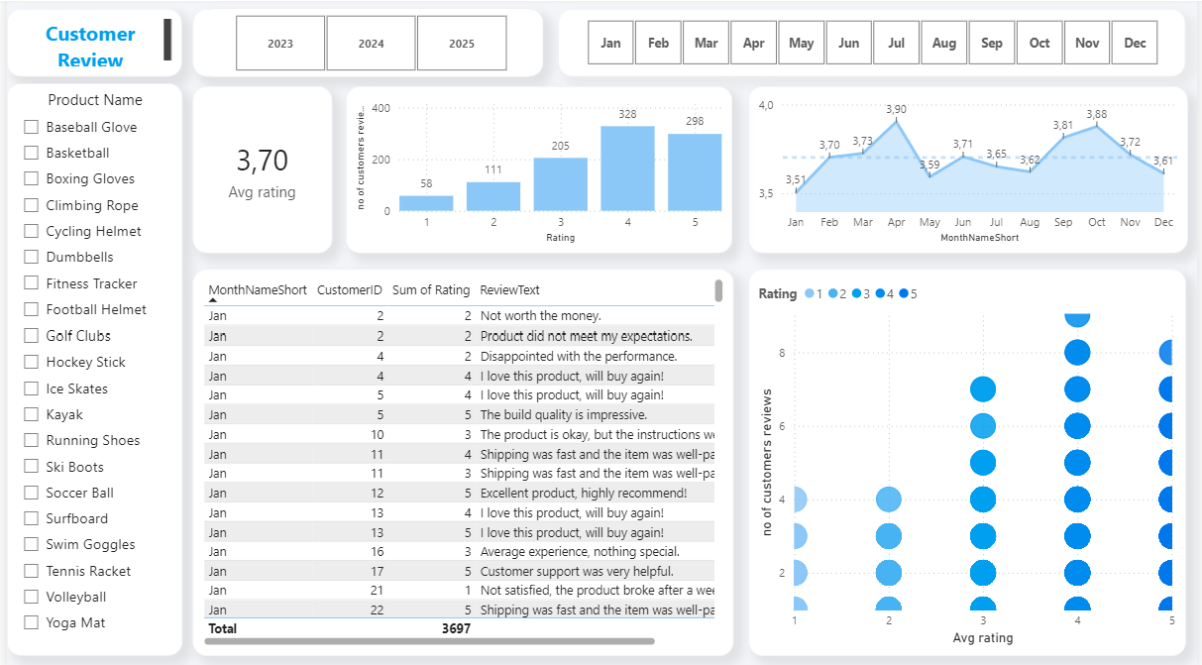
Conversion rate



Social media



Customer reviews



SQL

FACT tables

Reviews

```sql
SELECT
    [ReviewID],           -- Unique identifier for each review
    [CustomerID],         -- Unique identifier for the customer who submitted the review
    [ProductID],          -- Unique identifier for the product being reviewed
    [ReviewDate],         -- Date when the review was submitted
    [Rating],             -- Customer's rating for the product (e.g., 1-5 stars)
    REPLACE([ReviewText], '  ', ' ') AS [ReviewText] -- Cleans up extra spaces in the review text by replacing double spaces with a single space
FROM
    [PortfolioProject_MarketingAnalytics].[dbo].[customer_reviews]; -- Table containing customer reviews data
```

Engagements

```sql
SELECT
    [EngagementID],                                 -- Unique identifier for the engagement
    [ContentID],                                    -- Unique identifier for the content
    [CampaignID],                                   -- Unique identifier for the campaign
    [ProductID],                                    -- Unique identifier for the product
    UPPER(REPLACE([ContentType], 'Socialmedia', 'Social Media')) AS [ContentType], -- Formats the content type by replacing 'Socialmedia' with 'Social Media' and converting to uppercase
    [Likes],                                        -- Number of likes
    LEFT([ViewsClicksCombined], CHARINDEX('-', [ViewsClicksCombined]) - 1) AS [Views], -- Extracts the number of views from the combined field
    RIGHT([ViewsClicksCombined], LEN([ViewsClicksCombined]) - CHARINDEX('-', [ViewsClicksCombined])) AS [Clicks], -- Extracts the number of clicks from the combined field
    FORMAT(CONVERT(DATE, [EngagementDate]), 'dd.MM.yyyy') AS [EngagementDate] -- Formats the engagement date in the 'dd.MM.yyyy' format
FROM
    [PortfolioProject_MarketingAnalytics].[dbo].[engagement_data];
```

Customer journey

```sql
WITH Duplicated_Record AS (
    SELECT
        [JourneyID],                            -- Unique identifier for the journey
        [CustomerID],                           -- Unique identifier for the customer
        [ProductID],                            -- Associated product
        [VisitDate],                            -- Visit date
        [Stage],                                -- Customer journey stage
        [Action],                               -- Action performed by the customer
        [Duration],                             -- Duration of the action
        ROW_NUMBER() OVER (
            PARTITION BY [CustomerID], [ProductID], [VisitDate], [Stage], [Action] -- Grouping to identify duplicates
            ORDER BY [JourneyID] -- Ordering within each group
        ) AS row_num                            -- Row number to identify duplicates
    FROM
        [PortfolioProject_MarketingAnalytics].[dbo].[customer_journey] -- Source table
)
SELECT *
FROM Duplicated_Record
WHERE row_num > 1 -- Filter duplicate records
ORDER BY [JourneyID]; -- Order results by JourneyID
```

```sql
-- Second query: Cleaning and processing data
SELECT
    [JourneyID],  -- Unique identifier for the journey to ensure data traceability
    [CustomerID],  -- Unique identifier for the customer to link journeys to specific customers
    [ProductID],  -- Unique identifier for the product to analyze customer interactions with different products
    [VisitDate],  -- Visit date to understand the chronology of customer interactions
    [Stage],  -- Uses the uppercase stage value from the subquery for consistency in analysis
    [Action],  -- Action performed by the customer (e.g., View, Click, Purchase)
    COALESCE([Duration], [avg_duration]) AS [Duration]  -- Replaces missing durations with the average for the corresponding date
FROM
    (
        -- Subquery to process and clean data
        SELECT
            [JourneyID],  -- Unique identifier for the journey to ensure data traceability
            [CustomerID],  -- Unique identifier for the customer to link journeys to specific customers
            [ProductID],  -- Unique identifier for the product to analyze customer interactions with different products
            [VisitDate],  -- Visit date to understand the chronology of customer interactions
            UPPER([Stage]) AS [Stage],  -- Converts stage values to uppercase for consistency in analysis
            [Action],  -- Action performed by the customer (e.g., View, Click, Purchase)
            [Duration],  -- Uses the duration directly, assuming it is already a numeric type
            AVG([Duration]) OVER (PARTITION BY [VisitDate]) AS [avg_duration],  -- Calculates the average duration for each visit date
            ROW_NUMBER() OVER (
                PARTITION BY [CustomerID], [ProductID], [VisitDate], UPPER([Stage]), [Action]  -- Groups by these columns to identify duplicates
                ORDER BY [JourneyID]  -- Orders by JourneyID to keep the first occurrence of each duplicate
            ) AS [row_num]  -- Assigns a row number to each record within the partition to identify duplicates
        FROM
            [PortfolioProject_MarketingAnalytics].[dbo].[customer_journey]  -- Specifies the source table to select data
    ) AS [subquery]  -- Names the subquery for reference in the outer query
WHERE
    [row_num] = 1;  -- Retains only the first occurrence of each duplicate group identified in the subquery
```

Dimension tables

Customers

```sql
-- Select customer details from the customers table
SELECT
    [CustomerID],        -- Unique identifier for the customer
    [CustomerName],      -- Name of the customer
    [Email],             -- Email address of the customer
    [Gender],            -- Gender of the customer
    [Age],               -- Age of the customer
    [GeographyID]        -- Identifier linking the customer to geographic information
FROM
    [PortfolioProject_MarketingAnalytics].[dbo].[customers];

-- Select geographic details from the geography table
SELECT
    [GeographyID],       -- Unique identifier for the geography record
    [Country],           -- Country of the geographic location
    [City]               -- City of the geographic location
FROM
    [PortfolioProject_MarketingAnalytics].[dbo].[geography];

-- Combine customer details with geographic information using a LEFT JOIN
SELECT
    c.CustomerID,        -- Unique identifier for the customer
    c.CustomerName,      -- Name of the customer
    c.Email,             -- Email address of the customer
    c.Gender,            -- Gender of the customer
    g.Country,           -- Country linked to the customer's location
    g.City               -- City linked to the customer's location
FROM
    [PortfolioProject_MarketingAnalytics].[dbo].[customers] AS c -- Alias for the customers table
LEFT JOIN
    [PortfolioProject_MarketingAnalytics].[dbo].[geography] AS g -- Alias for the geography table
ON
    c.GeographyID = g.GeographyID; -- Join condition linking customer and geography tables
```

Products

```sql
    [ProductID],          -- Unique identifier for the product
    [ProductName],        -- Name of the product
    -- [Category],        -- Product category (commented out in this case)
    [Price],              -- Price of the product
    CASE
        WHEN Price < 50 THEN 'Low'          -- Classification: low price (less than 50)
        WHEN Price BETWEEN 50 AND 100 THEN 'Medium' -- Classification: medium price (between 50 and 100)
        ELSE 'High'                         -- Classification: high price (greater than 100)
    END AS Price_Category                  -- Name of the newly calculated column
FROM
    [PortfolioProject_MarketingAnalytics].[dbo].[products] -- Source table in the database
ORDER BY Price ASC; -- Sort the results in ascending order by price
```