Bright TV Viewership Analytics

Project Skills Showcase

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Project Context

The objective of this analysis was to deliver actionable insights to support BrightTV's strategic goal of growing its subscription base. The CEO tasked the Customer Value Management (CVM) team with identifying data-driven opportunities to support this growth initiative. To support these efforts, a comprehensive analysis was conducted on the available user profile and viewership transaction data.

The primary goals of this project were to:

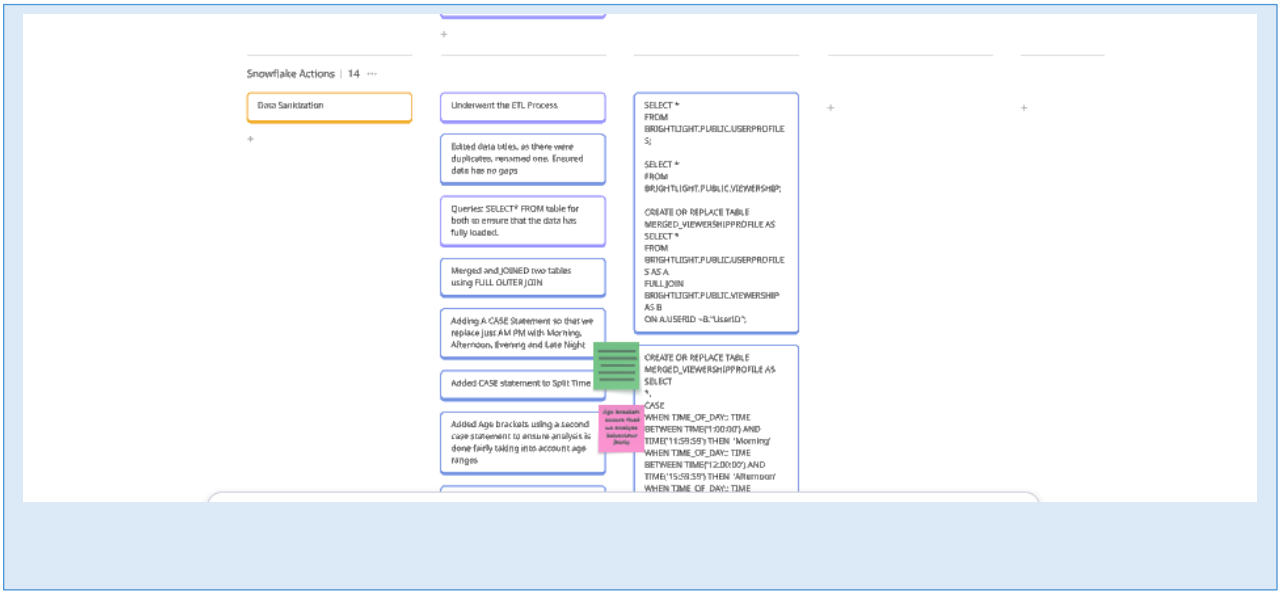
- Uncover user and usage trends on the BrightTV platform
- Identify key factors influencing content consumption
- Recommend strategies and content to boost engagement on low-consumption days
- Propose initiatives to further expand BrightTV's user base

By leveraging advanced data preparation, transformation, and visualization techniques-including ETL processes in Snowflake, SQL coding, process mapping in Miro, and analytics in Excel and Power BI-I translated complex, raw data into clear, actionable recommendations. These insights are designed to empower management with data-driven decision-making for strategic growth.

Project Process Overview

1. Process Mapping & Planning

Created a *Miro Board* to visually map out the project workflow and data journey from extraction to insight.



2. Data Preparation & Cleaning (Excel)

Used Excel formulas and Snowflake SQL to normalize and transform messy data.

- Reviewed and cleaned the raw viewership data in Excel.
- Standardized date formats to South African convention.

Separated combined date-time fields using TEXT(C2,"dd/mm/yyyy") for date formatting.

- Split the time into Date, Hour and Minute and added time of the day and duration of viewership.
- Split data into separate workbooks, converted to CSV, and prepared for database loading.
- Cleaned column headers and removed unnecessary spaces.

RECORDDATE2	CONVERTED_DATE	DATE	TIME_OF_DAY	TIMEOFDAY	DURATION2
2016-01-04 18:09	2016-01-04 20:09	2016-01-04	09:00.0	PM	02:00.0
2016-03-30 9:04	2016-03-30 11:04	2016-03-30	04:00.0	AM	10:06.0
2016-03-30 17:01	2016-03-30 19:01	2016-03-30	01:00.0	PM	00:42.0
2016-03-25 15:23	2016-03-25 17:23	2016-03-25	23:00.0	PM	00:10.0
2016-02-02 17:18	2016-02-02 19:18	2016-02-02	18:00.0	PM	01:33.0
2016-03-18 16:56	2016-03-18 18:56	2016-03-18	56:00.0	PM	00:10.0
2016-03-20 4:25	2016-03-20 6:25	2016-03-20	25:00.0	AM	17:15.0
2016-02-03 6:43	2016-02-03 8:43	2016-02-03	43:00.0	AM	01:13.0
2016-03-31 10:01	2016-03-31 12:01	2016-03-31	01:00.0	PM	04:45.0
2016-01-09 8:25	2016-01-09 10:25	2016-01-09	25:00.0	AM	00:40.0
2016-03-24 9:09	2016-03-24 11:09	2016-03-24	09:00.0	AM	00:06.0
2016-03-26 15:33	2016-03-26 17:33	2016-03-26	33:00.0	PM	01:12.0

3. Data Integration & Transformation (Snowflake & SQL)

Loaded cleaned CSV files into Snowflake for scalable analysis.

- Standardized data titles and resolved duplicates.
- Ran initial SQL queries (SELECT * FROM table) to verify successful data load.

Used CASE statements to:

- Categorize time of day (Morning, Afternoon, Evening, Late Night).
- Create age brackets for fair demographic analysis.
- Identify and analyze NULL viewing times.

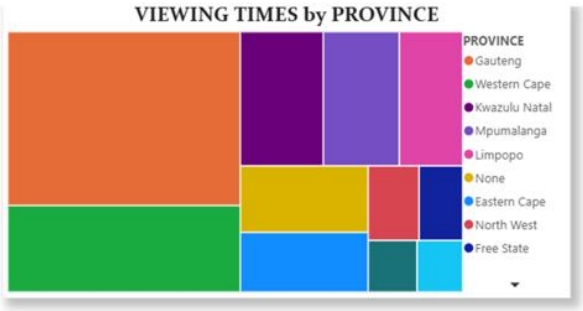
```sql
CREATE OR REPLACE TABLE  MERGED_VIEWERSHIPPROFILE AS
SELECT
*,
CASE
    WHEN TIME_OF_DAY:: TIME BETWEEN TIME('1:00:00') AND TIME('11:59:59') THEN  'Morning'
    WHEN TIME_OF_DAY:: TIME BETWEEN TIME('12:00:00') AND TIME('15:59:59') THEN  'Afternoon'
    WHEN TIME_OF_DAY:: TIME BETWEEN TIME('16:00:00') AND TIME('21:59:59') THEN  'Night'
    ELSE 'LateNight'
    END AS Viewing_Times,
CASE
    WHEN AGE BETWEEN 0 AND 15 THEN 'Children'
    WHEN AGE BETWEEN 16 AND 24 THEN 'Youth'
    WHEN AGE BETWEEN 25 AND 44 THEN 'Young Adults'
    WHEN AGE BETWEEN 45 AND 64 THEN 'Middle-Aged Adults'
    ELSE 'Seniors'
    END AS Age_Group
FROM BRIGHTLIGHT.PUBLIC.USERPROFILES AS A
FULL OUTER JOIN BRIGHTLIGHT.PUBLIC.VIEWERSHIP AS B
ON A.USERID =B."UserID";
```

4. Data Visualization & Analysis (Excel & Power BI)

Built Excel pivot tables and charts to visualize:

- Most popular channels by race (bar chart, formatted table)
- Audience demographics by age (histogram, range table)
- Viewership by province and gender (pie chart, Power BI tree map)
- Viewership by age vs. time (bar and line combo chart)
- Viewing duration by day of week (scatter plot, bar chart)

- Used Power BI for interactive dashboards and deeper drilldowns.



5. Recommendations & Strategic Insights

Synthesized findings into actionable recommendations for management, focusing on:

- Content promotion strategies for off-peak days
- Targeted engagement of high-potential segments
- Partnership and notification initiatives

Key Learnings and Skills Demonstrated

Skill	Description
Data Cleaning	Used Excel formulas and Snowflake SQL to standardize and transform messy data.
SQL Queries	Created complex queries using CASE, GROUP BY, and filtering logic.
Data Visualization	Developed clear, story-driven visuals in Excel and Power BI.
Storytelling with Data	Mapped data to business objectives and created a narrative flow.
Tools Integration	Efficient transition of data across Excel ⟹ Snowflake ⟹ Power BI.
Insight Generation	Derived content and user behavior insights with real-world impact by Providing a Presentation to Management.