

Project Final Document: Vision

Team Members:

- Soundarya Ravi
- Advait Mahendra Narvekar
- Ramya Chowdary Patchala
- Jash Nimesh Dharia Jaliwala

Project Overview:

The Vision Framework is a comprehensive integration initiative designed to unify four distinct business entities—Vision Books, Vision Flicks, Vision Music, and Vision Mart—into a single, cohesive platform. This initiative seeks to leverage data aggregation, transformation, and analytics to enhance business operations and elevate customer experience across multiple domains.

Key Components:

1. Data Integration and Source Tables:

The project began by identifying and consolidating relevant source tables for each business entity. Drawing inspiration from established platforms like Amazon, Netflix, and Spotify, the team meticulously curated source tables covering essential aspects such as sales, customer engagement, membership, billing, and product details.

2. Data Processing and Transformation:

Utilizing cutting-edge technologies like Snowflake and DBT, the team implemented robust data processing and transformation pipelines. Scripts were developed to generate and migrate data into Snowflake, ensuring a comprehensive coverage of business functionalities. Demand fact tables were employed to facilitate granular-level analysis and aggregation of data for actionable insights.

3. Business Analytics and Visualization:

Power BI dashboards were leveraged to provide intuitive business analytics and visualization. Multiple dashboards were tailored to each business entity, focusing on key metrics such as customer spending patterns, product popularity, geographical distribution, and content engagement. These dashboards empowered stakeholders with actionable insights to drive strategic decision-making and optimize business performance.

Source:

The screenshot shows the Snowflake web interface for the VISIONFLIX schema. The left sidebar contains navigation options: Create, Search, Projects, Data, Databases (selected), Add Data, Data Products, AI & ML, Monitoring, and Admin. A trial notice indicates 24 days left. The main panel displays the VISIONFLIX schema details, including a list of 11 tables. The tables are listed with their names, types, owners, and creation dates.

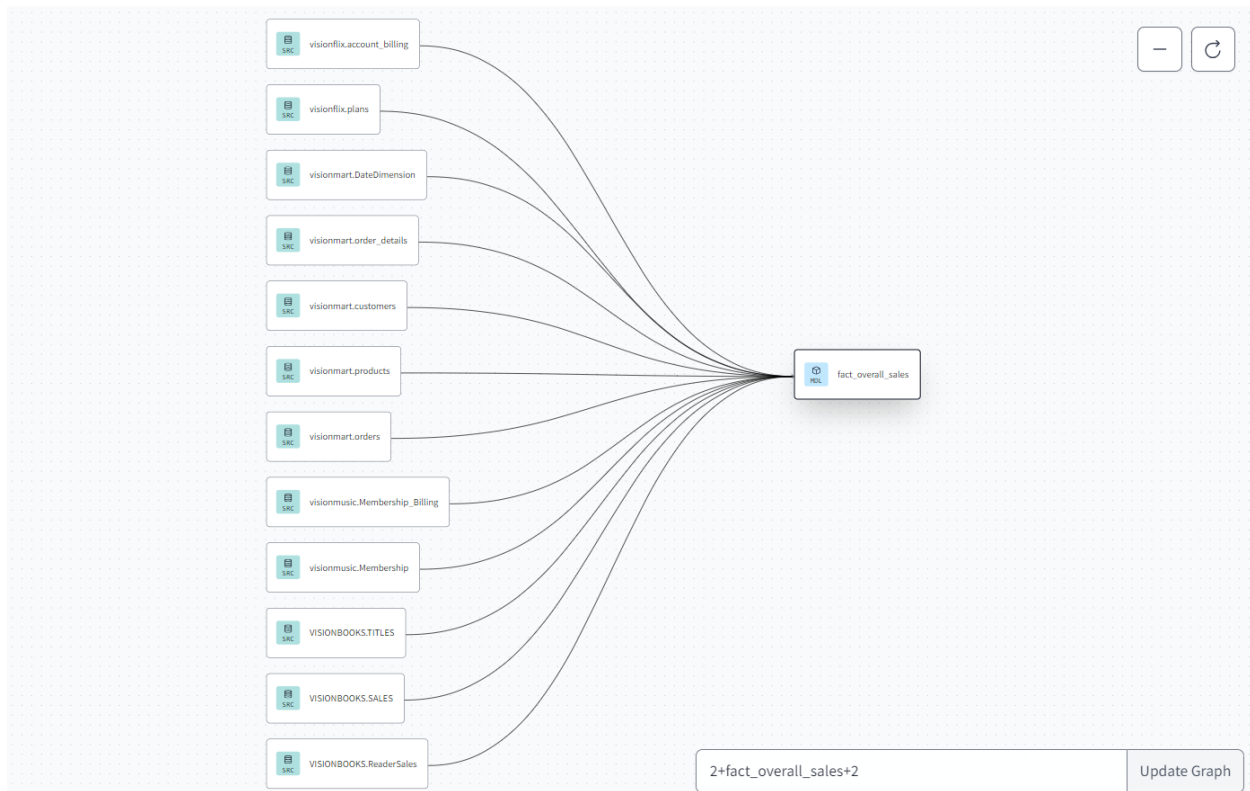
NAME	TYPE	OWNER	RO...	BY...	CREAT...
ACCOUNTS	Table	ACCOUNTADMIN	25	2.0...	1 day ago
ACCOUNT_ACTIVITY	Table	ACCOUNTADMIN	50	2.5...	1 day ago
ACCOUNT_BILLING	Table	ACCOUNTADMIN	100	2.5...	1 day ago
ACCOUNT_TITLES	Table	ACCOUNTADMIN	250	6.0...	1 day ago
CASTING	Table	ACCOUNTADMIN	1K	7.0KB	1 day ago
DIRECTORS	Table	ACCOUNTADMIN	7.1K	54...	1 day ago
GENRES	Table	ACCOUNTADMIN	485	5.5...	1 day ago
PEOPLE	Table	ACCOUNTADMIN	1K	12...	1 day ago
PLANS	Table	ACCOUNTADMIN	5	2.0...	1 day ago
TITLES	Table	ACCOUNTADMIN	7.2K	1.4...	1 day ago
TITLE_GENRES	Table	ACCOUNTADMIN	25...	134...	1 day ago

Transforming:

The screenshot shows the dbt IDE interface. The top bar includes navigation options: Develop, Deploy, Documentation, and Explore. The main panel displays a SQL model named 'fact_overall_sales.sql'. The SQL code is shown in a text editor, and the results are displayed in a table below. The table has 6 columns: CUSTOMER_KEY, MONTH, YEAR, VISIONFLIX_TOTAL..., VISIONMART_TOTAL..., and VISIONMUSIC_TOTA... The results show 15 rows of data.

```
1 with
2   stg_account_billing as (
3     select * from {{ source("visionflix", "account_billing") }}
4   ),
5   stg_plans as (select * from {{ source("visionflix", "plans") }}),
6   stg_dim_date as (select * from {{ source("visionmart", "DateDimension") }}),
7   stg_order_details as (select * from {{ source("visionmart", "order_details") }}),
8   stg_customers as (select * from {{ source("visionmart", "customers") }}),
9   stg_products as (select * from {{ source("visionmart", "products") }}),
10  stg_orders as (select * from {{ source("visionmart", "orders") }}),
11  stg_visionflix_fact as (
12    select
```

CUSTOMER_KEY	MONTH	YEAR	VISIONFLIX_TOTAL...	VISIONMART_TOTAL...	VISIONMUSIC_TOTA...	VISIONBOOKS_TOTA...	CUSTOMER_OVERALL...
1	2	2010	19.99	2434.95	50.0	1099.95	3604.89
2	2	2010	11.99	3227.95	20.0	821.25	4081.19
2	5	2010	17.99	607.95	40.0	947.5	1613.44
3	2	2010	15.99	200.0	30.0	239.0	484.99
4	3	2010	15.99	1537.75	30.0	299.8	1883.54
5	5	2010	19.99	189.95	50.0	219.0	478.94
7	5	2010	7.99	380.0	10.0	431.8	829.79
8	5	2010	15.99	1000.0	30.0	175.0	1220.99
10	3	2010	15.99	2869.9	30.0	199.75	3115.64



Staging:

Screenshot of the Snowflake web interface showing the "VISION_DWH / DBT_SRAVI" schema. The interface displays a list of 45 tables, including:

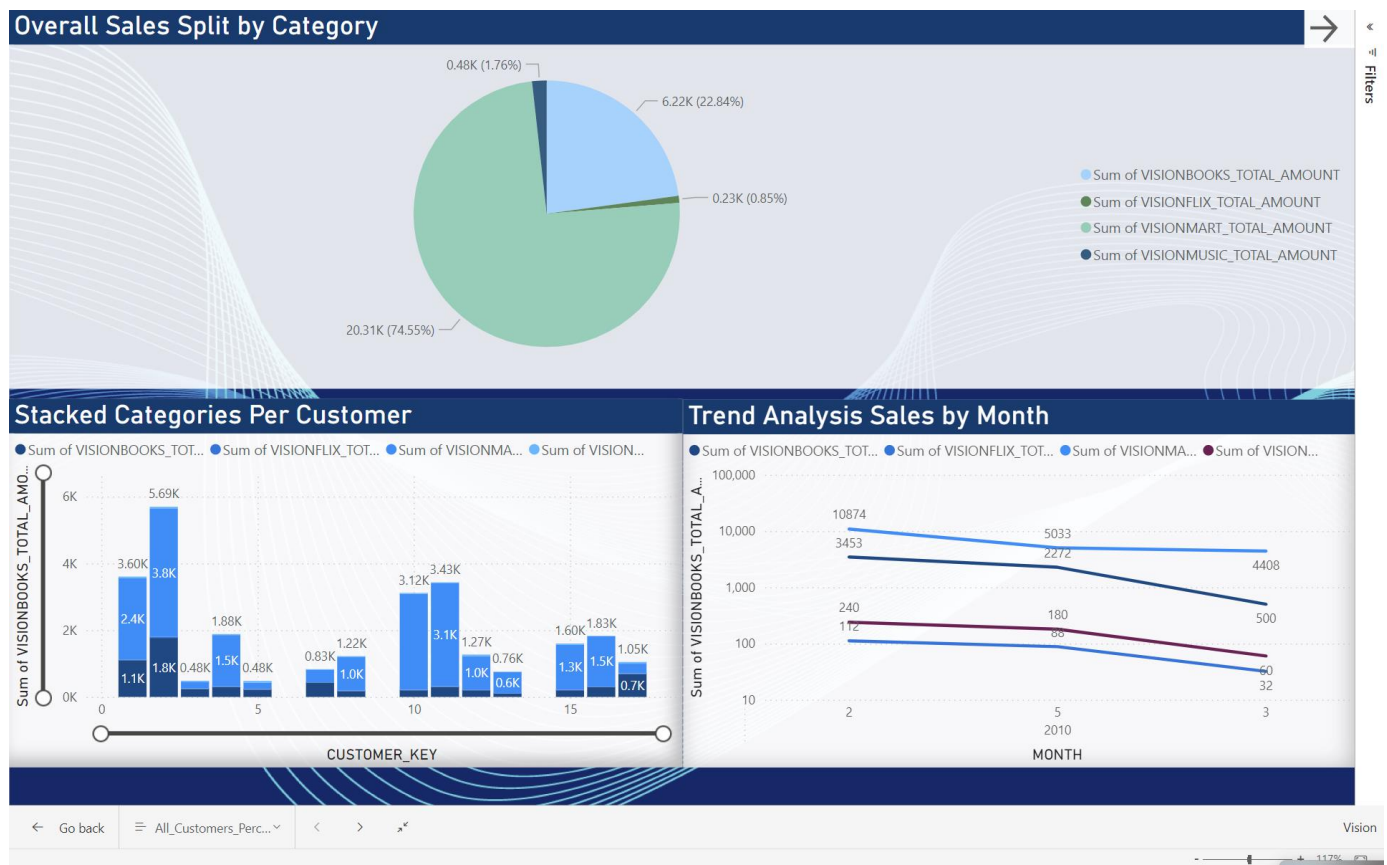
- DIM_ACCOUNTVALIDITY
- DIM_ALBUM
- DIM_ARTIST
- DIM_AUTHOR
- DIM_CREDITCARD
- DIM_CUSTOMERS
- DIM_DATE
- DIM_DEPARTMENT
- DIM_EMPLOYEE
- DIM_GENRES
- DIM_JOBTITLE
- DIM_ORDERDETAILS
- DIM_ORDERS
- DIM_PERSON
- DIM_PLANS
- DIM_PLAYLIST
- DIM_PRODUCT
- DIM_PUBLISHER
- DIM_REVIEWS
- DIM_SHIPPING
- DIM_SUPERVISOR
- DIM_TIMESHEET
- DIM_TITLE
- DIM_TITLES

The user profile at the bottom left indicates "Soundarya Ravi ACCOUNTADMIN" with 24 days left in trial.

Dashboard Highlights:

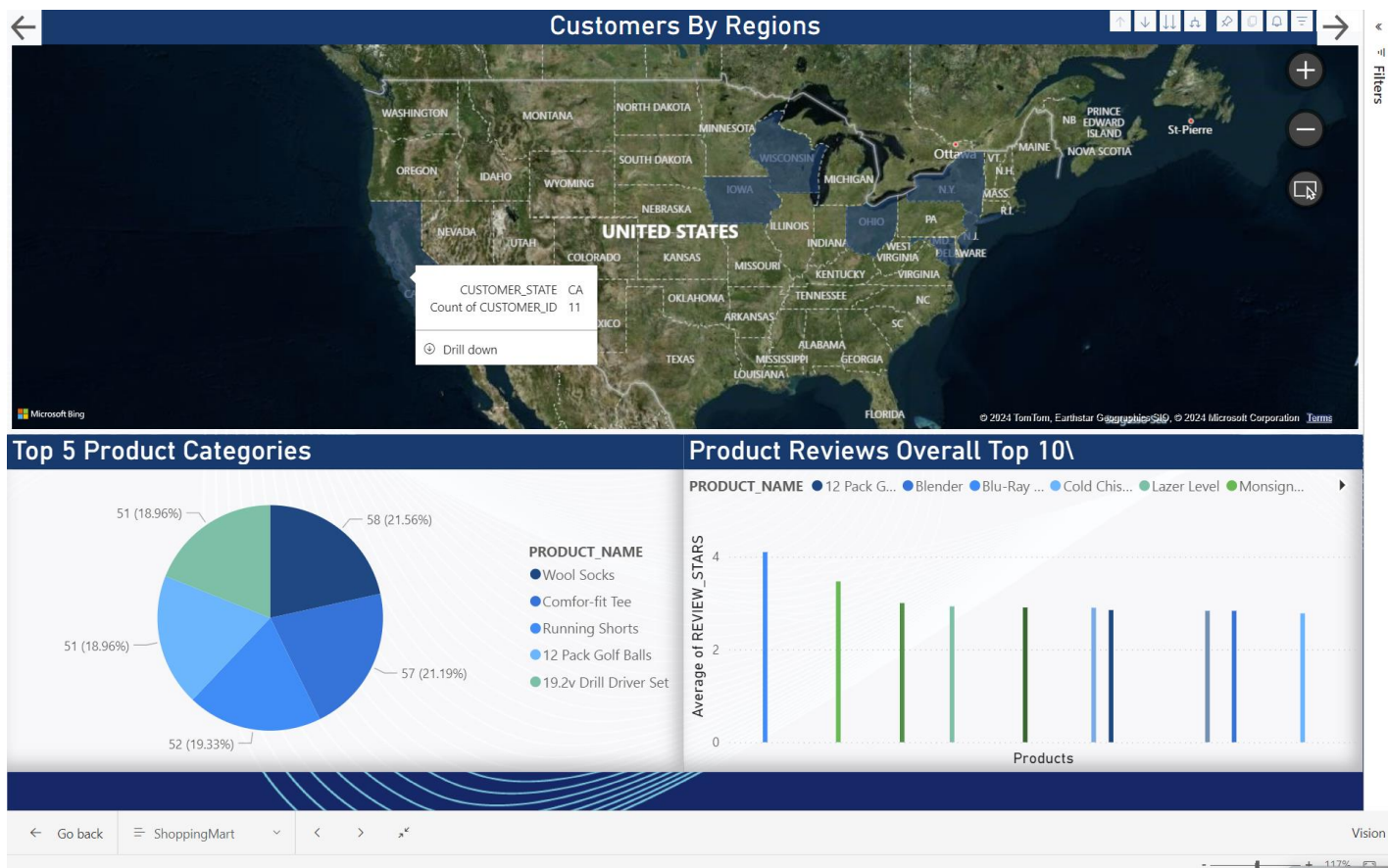
1. Overall Sales Split by Category:

- Insights into the contribution of each business entity to overall sales.
- Vision Mart emerged as the leading contributor, followed by Vision Books, Vision Flicks, and Vision Music.
- Enabled targeted strategies for customer engagement and revenue generation based on sales distribution.



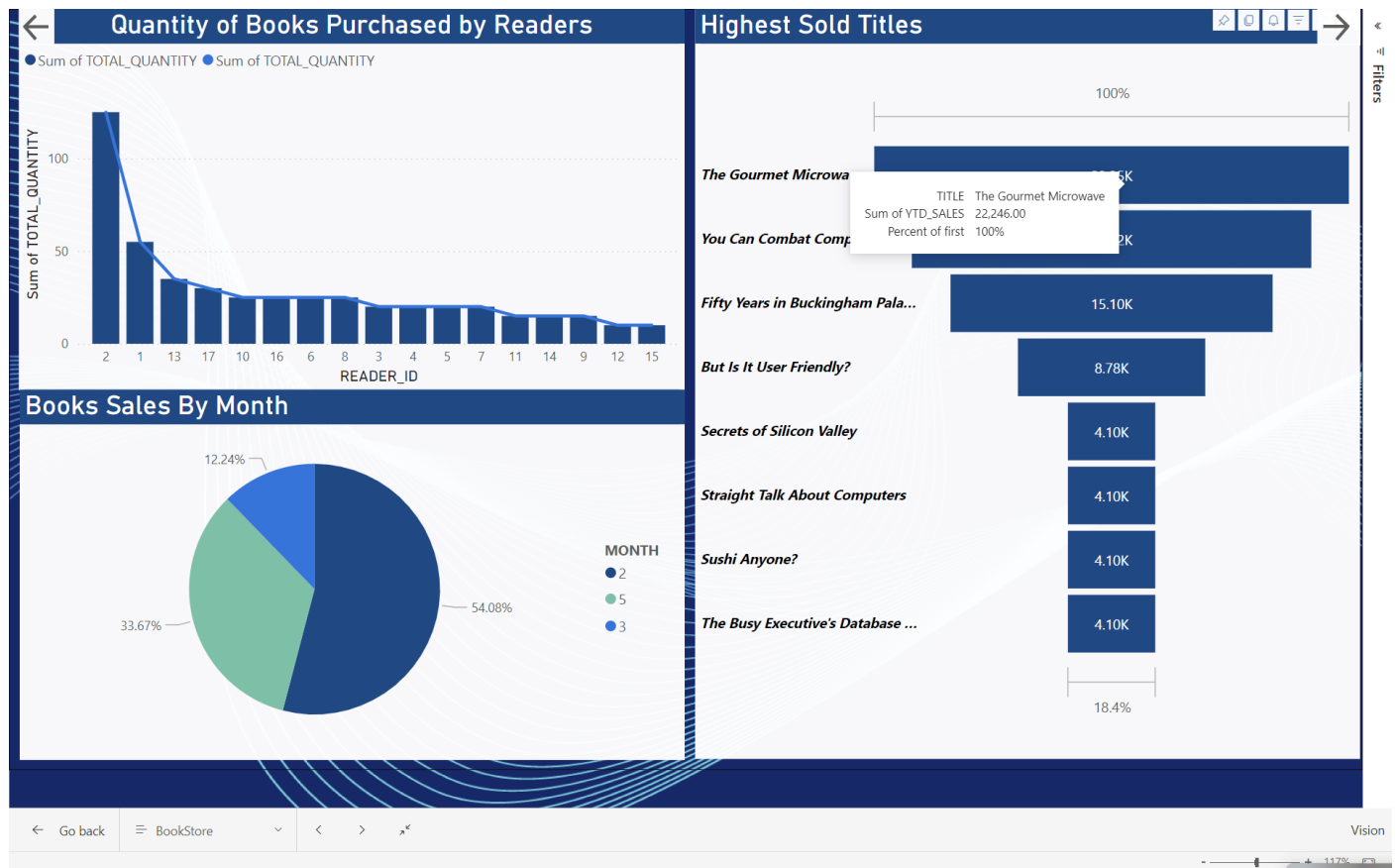
2. Customer Spending Analysis:

- Visualized customer spending patterns across categories and months.
- Facilitated personalized recommendations and promotional strategies to increase customer retention and cross-category sales.



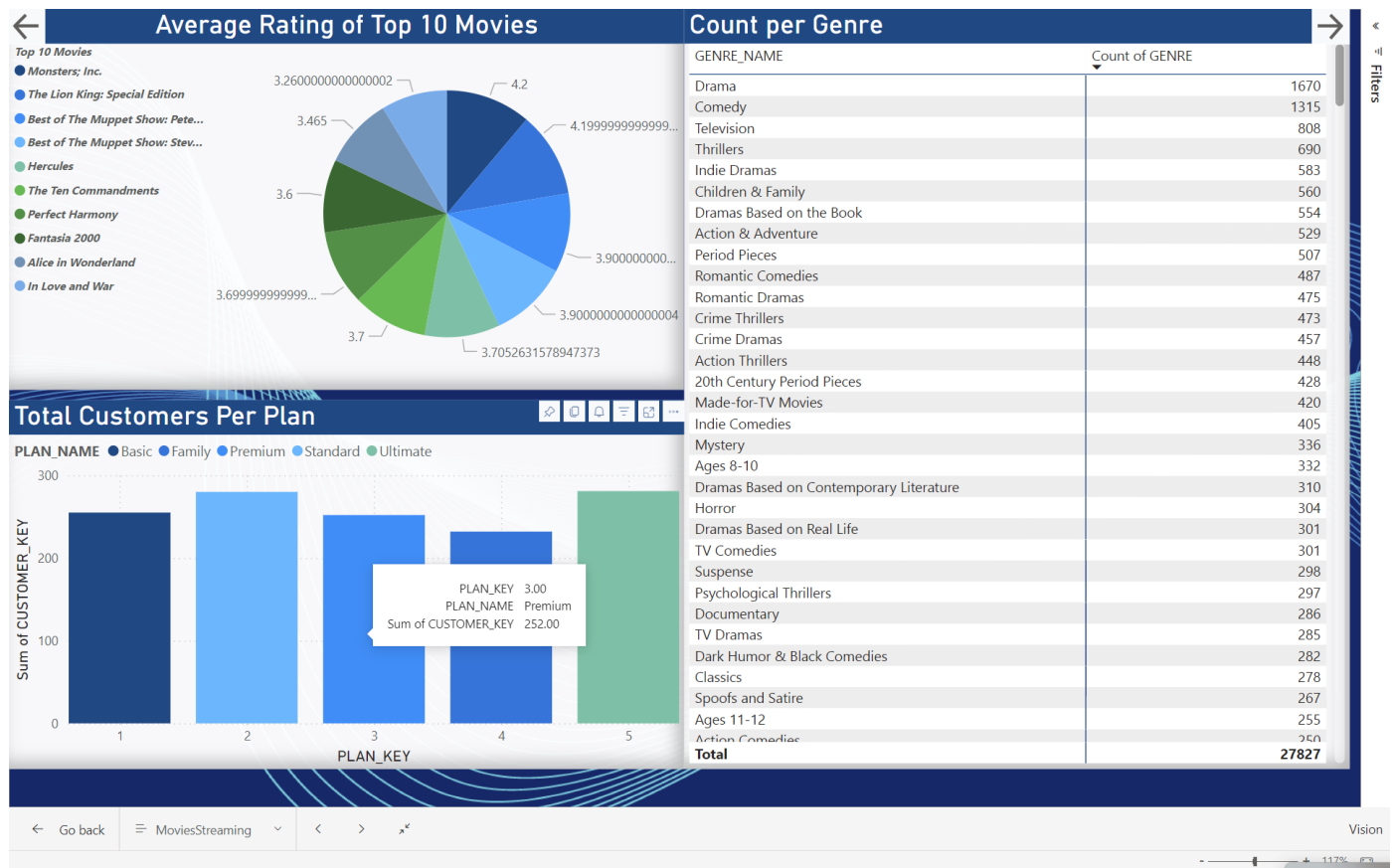
3. Geographical Analysis:

- Presented geographical distribution of customers and product sales using interactive maps.
- Informed marketing and promotional efforts by identifying regions with high customer concentration and sales potential.



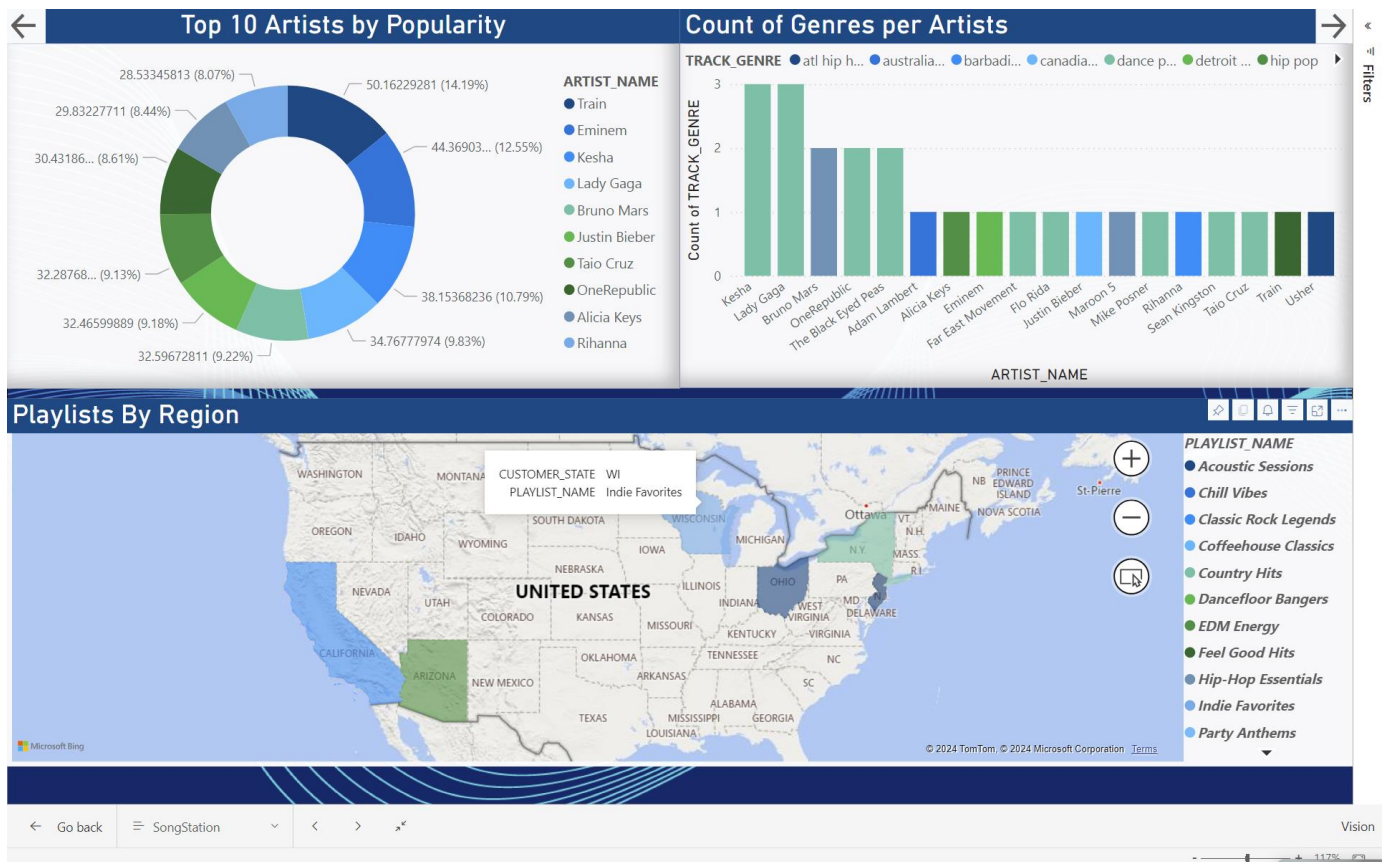
4. Product Performance and Reviews:

- Evaluated product performance based on sales volume and average reviews.
- Guided inventory management and product selection to optimize customer satisfaction and loyalty.



5. Content Recommendation and Engagement:

- Recommended popular artists, movies, and genres to enhance customer engagement.
- Provided insights into customer preferences and behavior to tailor content offerings and promotional campaigns.



Conclusion:

The Vision Framework represents a milestone achievement in the realm of integrated business platforms. By seamlessly merging disparate entities into a unified ecosystem, this initiative has unlocked a wealth of insights and opportunities for businesses to thrive in today's competitive landscape. Through advanced data analytics and visualization, stakeholders are empowered to make informed decisions, drive customer engagement, and maximize profitability across diverse domains.

