

In this project I did data analysis for an online music store. Some of the key ways I can make a significant impact on the business by answering these questions are:

1. Targeted Marketing Strategies:

- Utilize the insights from the analysis to tailor marketing efforts. For instance:
 - Focus promotional campaigns in cities with high revenue (e.g., the city identified as having the best customers).
 - Customize genre-specific promotions based on the most popular genres in each country.
 - Reach out to top-spending customers individually with personalized offers.

2. Resource Allocation Optimization:

- Allocate resources efficiently by understanding customer behavior:
 - Prioritize rock music-related content (e.g., concerts, merchandise) based on the popularity of rock bands.
 - Invest in genres that resonate with specific countries.
 - Identify high-value customers and provide exceptional service to retain their loyalty.

3. Revenue Maximization:

- Leverage the analysis to boost revenue:
 - Encourage cross-selling by recommending artists or genres related to rock music listeners.
 - Promote longer tracks (above average length) to increase overall listening time and potential ad revenue.
 - Optimize pricing strategies based on invoice values.

4. Customer Retention and Acquisition:

- Enhance customer relationships:
 - Recognize and reward the best customer (highest spender) to foster loyalty.
 - Understand customer spending patterns by artist to tailor recommendations.
 - Use insights to attract new customers (e.g., music festivals in cities with high revenue).

5. Strategic Decision-Making:

- Provide actionable insights to management:
 - Share the top-performing countries, genres, and artists.
 - Highlight trends (e.g., increasing rock music listenership) for informed decision-making.

- Suggest expansion opportunities based on successful cities and customer segments.

All the queries their solutions and explanations are given below.

Query 1:

Finding the senior most employee form the employee table.

The screenshot shows a database query interface with the following details:

- Query:**

```

1 --Who is the senior most employee based on title?
2 select
3   employee_id,
4     first_name,
5     last_name,
6     levels
7   from `music_store_data.employee`
8   order by levels desc
9   limit 1
10

```
- Status:** Query completed.
- Results:**

Row	employee_id	first_name	last_name	levels
1	9	Mohan	Medan	L7

Query 2:

Finding top countries by the number of invoices by grouping with “billing country”.

The screenshot shows a database query interface with the following details:

- Query:**

```

1 --Which countries have the most invoices?
2 select
3   billing_country,
4   count(invoice_id) as invoices_count
5   from `music_store_data.invoice`
6   group by billing_country
7   order by 2 desc

```
- Status:** Query completed.
- Results:**

Row	billing_country	invoices_count
1	USA	131
2	Canada	76
3	Brazil	61
4	France	50
5	Germany	41
6	Czech Republic	30
7	Portugal	29
8	United Kingdom	28
9	India	21
10	Chile	13

Query 3:

Finding the city with top sales. Here we take the sum of “total” column and group the data by the “billing city”.

Query 4:

Finding out the best customer for our company. Since customer data is present in the “Customers” table and their purchasing data is in the “Invoice” table, we perform a join operation to obtain the required results.

Query 5:

See what the data for rock music listeners looks like. Since email, first name and last name are in the “Customer” table and genre is in the “Genre” table, we will join them. But these table can't be joined directly as they share a relation. Thus, we join these three tables: Customer, Invoice and Genre tables.

Query 6:

Finding the Rock band popularity based on track count. By looking at the schema we realise that we need to join 4 tables in order to obtain the desired result. Finally group the data by artist id and name to obtain the top artists.

Query 7:

Finding track names that have song length longer than average song length. To retrieve all track names with a song length longer than the average, we'll need to calculate the average song length first. Then we can compare each track's length to this average. Analysing the longest tracks provides valuable insights for content curation, user engagement, and revenue optimization.

Query 8:

Finding how much each customer has spent on artists. We combine data from multiple tables (e.g., `customer`, `invoice`, `invoice_line`, `track`, `album`, and `artist`) to calculate the total amount spent by each customer on artists. This query provides valuable insights for revenue growth and customer engagement.

Certainly! Let's break down the SQL query from the image and identify its purpose and potential impact:

1. **Query Purpose**:

- The query aims to find out how much each customer has spent on artists.
- It combines data from multiple tables (e.g., `customer`, `invoice`, `invoice_line`, `track`, `album`, and `artist`) to calculate the total amount spent by each customer on artists.

2. **Key Insights and Statistics**:

- The query retrieves the following information:
 - Customer ID
 - First name
 - Last name
 - Artist name
 - Total amount spent by the customer on artists

3. **Potential Impact on the Business**:

- **Customer Segmentation**:

- Identify high-spending customers who contribute significantly to artist-related revenue.
- Tailor marketing efforts (e.g., personalized recommendations, loyalty programs) for these valuable customers.

- **Artist Performance Evaluation:**

- Understand which artists attract the most spending.
- Use this information to prioritize collaborations, promotions, or artist-specific events.

- **Revenue Optimization:**

- Optimize pricing strategies based on customer spending patterns.
- Encourage cross-selling by recommending artists related to the customer's preferences.

- **Business Strategy:**

- Determine whether certain genres or artists are more profitable.
- Allocate resources (e.g., marketing budget, artist partnerships) strategically.

- **Customer Experience Enhancement:**

- Provide personalized artist recommendations to enhance user satisfaction.
- Recognize and reward top-spending customers.

In summary, this query provides valuable insights for revenue growth, customer engagement, and informed decision-making within the music business. 🎵📊

[edge browser](#message)

The image shows a SQL query aimed at finding out how much each customer has spent on artists. The query involves multiple tables, including `customer`, `invoice`, `invoice_line`, `track`, `album`, and `artist`. Here are the key details:

- The query calculates the total amount spent by each customer on artists.
- It joins relevant tables to link customers, invoices, tracks, albums, and artists.
- The results include customer names, artist names, and the total amount spent.
- The data is grouped by customer and ordered by the total amount spent in descending order.

****Purpose and Impact**:**

1. **Customer Insights**:

- Identify high-spending customers who contribute significantly to artist-related revenue.
- Personalize marketing efforts for these valuable customers.

2. **Artist Evaluation**:

- Understand which artists attract the most spending.
- Prioritize collaborations, promotions, or artist-specific events.

3. **Revenue Optimization**:

- Optimize pricing strategies based on customer spending patterns.
- Encourage cross-selling by recommending related artists.

4. **Business Strategy**:

- Determine profitable genres or artists.
- Allocate resources strategically (e.g., marketing budget, artist partnerships).

5. **Enhanced Customer Experience**:

- Provide personalized artist recommendations.
- Recognize and reward top-spending customers.

This analysis informs decisions, drives revenue, and enhances user satisfaction in the music industry.

Query 9:

Finding the most popular music genre for each country. With the help of a CTE, we calculate the total number of purchases for each genre in each country. The ROW_NUMBER() function assigns a rank to each genre within a country based on the purchase count. PARTITION BY CountryId groups the data by country. Within each country, the ranking is calculated. This analysis provides actionable insights for marketing, content curation, and revenue growth within the music industry.

Query 10:

Finding the top spending customer for each country based on their spending on music. With the help of a CTE, we calculate the total spending for each customer in each country. Then we assign a row

number to each customer within their country, ordered by total spending (descending). Finally, we select rows from the CTE where the row number is 1 (i.e., the top spending customer for each country).