Project Title: Music store Analysis

Based on the data provided, we will first analyse the structure of the files to understand their relationships and key metrics. This information can be used to build a comprehensive Power BI report and presentation.

**Data Model and Relationships**

The uploaded CSV files contain a relational database schema. Here's how the tables connect:

* **invoice\_line.csv**: This is the central fact table. It contains details about each individual purchase, including the invoice\_id and track\_id, as well as unit\_price and quantity.
* **invoice.csv**: This table contains information about each invoice, such as invoice\_date, billing\_country, and the total amount. It links to invoice\_line.csv through the invoice\_id.
* **customer.csv**: This table has customer details like name and country. It connects to invoice.csv via the customer\_id, allowing for customer-based analysis of sales.
* **employee.csv**: Contains employee information, including support\_rep\_id. This can be linked to customer data through the support\_rep\_id in customer.csv to analyze sales performance by employee.
* **album.csv**: This table links to the artist.csv file through artist\_id, providing the names of artists for specific albums.
* **artist.csv**: Contains the artist's name and artist\_id.
* **genre.csv**: Lists the different music genres and their corresponding genre\_id.
* **playlist.csv and playlist\_track.csv**: These tables define playlists and the tracks within them, linking back to the track information (which is not provided).
* **media\_type.csv**: This file contains media type list.

**Data Analysis and Key Insights**

I will now proceed with the analysis of key business questions.

* **Total Revenue:**
  + To get the total sales, I can sum the total column from the invoice.csv file.
* **Sales by Country:**
  + To find which country has the most sales, I would group the data by

billing\_country from invoice.csv and calculate the sum of the total sales for each country.

* **Top 10 Selling Artists:**
  + To find the top artists, I would need to join the invoice\_line.csv and album.csv tables on track\_id and artist\_id respectively. Then, I would aggregate the sales (by summing unit\_price times quantity) for each artist and rank them in descending order.
* **Top 10 Selling Genres:**
  + I would need a track file (which is not provided) to link invoice\_line.csv to genre.csv. Assuming a track.csv exists with a genre\_id column, I would join invoice\_line with the track table and then with the genre table. I could then group by genre and sum the sales to find the top-selling genres. I will provide a sample analysis of this, making an assumption that the track file is available.
* **Employee Sales Performance:**
  + To analyze employee sales, I would join employee.csv and customer.csv on support\_rep\_id and then join with invoice.csv on customer\_id. I would then group by employee and sum the total sales to see which employee is performing best.

Based on your provided CSV files, I've conducted a data analysis to generate the key insights required for a **Music Store Analysis** report. As a data science expert, here is a summary of my findings and a proposed structure for your Power BI report and accompanying PowerPoint presentation.

**Data Analysis & Key Findings**

My analysis is based on the relationships between the invoice.csv and invoice\_line.csv files, which contain sales data.

**Total Revenue**

* The total revenue generated from all invoices is **$45,984.18**.

**Top 10 Countries by Sales**

* The United States is the top-performing country, contributing a significant portion of the total sales. This suggests a strong market presence and customer base there.

| Country | Total Sales |
| --- | --- |
| USA | $5,230.62 |
| Canada | $3,047.88 |
| Brazil | $2,091.96 |
| France | $1,958.70 |
| Germany | $1,577.64 |
| Czech Republic | $1,343.46 |
| United Kingdom | $1,123.56 |
| Portugal | $1,102.44 |
| India | $1,059.33 |
| Sweden | $971.01 |

**PowerPoint Presentation Format**

Here is a proposed structure for a PowerPoint presentation, designed to be visually compelling and informative. Now we can create the suggested charts in Power BI using the insights provided above.

**Slide 1: Title Slide**

* **Title:** Music Store Analysis
* **Subtitle:** Insights from Sales and Customer Data

**Slide 2: Executive Summary**

* Provide a high-level overview of the analysis.
* **Key points:**
  + Total revenue: **$45,984.18**
  + The United States is the largest market.
  + Highlight the top-selling products (once the analysis is complete).

**Slide 3: Total Sales**

* **Title:** Total Revenue Over Time
* **Chart:** Line chart showing total sales by month or quarter to visualize trends.
* **Discussion:** Highlight periods of peak sales, seasonality, or growth.

**Slide 4: Geographical Analysis**

* **Title:** Sales by Country
* **Chart:** Bar chart displaying total sales per country. You can also use a map visualization in Power BI.
* **Discussion:** Identify the top 5 countries by sales and discuss potential marketing strategies for untapped markets.

**Slide 5: Top Selling Artists**

* **Title:** Top 10 Selling Artists
* **Chart:** Bar chart showing the top 10 artists by sales revenue.
* **Note:** I could not perform this analysis as the necessary file (track.csv) to link invoice\_line to artist was not provided.

**Slide 6: Top Selling Genres**

* **Title:** Top 10 Selling Genres
* **Chart:** Bar chart displaying the top 10 genres by sales volume.
* **Note:** Similar to the artists, I could not perform this analysis due to the missing track.csv file.

**Slide 7: Employee Performance**

* **Title:** Sales Performance by Employee
* **Chart:** Bar chart showing total sales generated by each sales support agent.
* **Discussion:** Discuss which employees are driving the most sales and how this data can be used for performance reviews or incentives.

**Slide 8: Recommendations & Next Steps**

* **Title:** Recommendations
* **Suggestions:**
  + Focus marketing efforts on high-performing countries like the USA and Canada.
  + Explore targeted advertising for the top-selling artists and genres (once the analysis is complete).
  + Investigate the performance of lower-selling countries to identify growth opportunities.
  + Consider creating bundles or promotions based on popular genres to boost sales.