Based on the files we are provided with, here is a detailed plan for a Power BI report, complete with key performance indicators (KPIs), suggested visualizations, and the necessary data transformations.

**Part 1: Data Preparation and Model**

Before creating any visualizations, the first step is to load the data into Power BI and establish the relationships between the tables. This is crucial for creating meaningful insights.

1. **Load the Data:** Import all the provided CSV files into Power BI Desktop.
2. **Establish Relationships:**
   * **invoice\_line** (Fact Table) links to **invoice** via invoice\_id.
   * **invoice** links to **customer** via customer\_id.
   * **customer** links to **employee** via support\_rep\_id.
   * **invoice\_line** links to the missing **track** table via track\_id (this is a key limitation).
   * The missing **track** table would link to **album** via album\_id and **genre** via genre\_id.
   * **album** links to **artist** via artist\_id.

**Crucial Note:** The absence of the track.csv file prevents a direct analysis of sales by **Genre** and **Artist**. To address this, we will need to find and include the track table or manually join the invoice\_line to the album and genre tables if a logical connection can be made through other fields. For the purpose of this guide, we will assume a track table exists.

**Part 2: Key Performance Indicators (KPIs)**

These are the essential metrics to display prominently on your report's main page using a **Card** or **KPI** visualization.

* **Total Revenue:** The sum of the total column from the invoice table. This is your primary sales metric.
* **Total Invoices:** The distinct count of invoice\_id from the invoice table.
* **Total Customers:** The distinct count of customer\_id from the customer table.
* **Average Invoice Total:** The average of the total column from the invoice table.
* **Total Tracks Sold:** The sum of the quantity column from the invoice\_line table.

**Part 3: Report Pages and Visualizations**

Organize your report into several pages, each focused on a specific aspect of the business. This makes the report clean and easy to navigate.

**Page 1: Sales Overview**

This page should provide a high-level summary of the store's sales performance.

* **Top 5 Countries by Sales:** A **bar chart** showing total sales (total) grouped by billing\_country. This quickly identifies your most profitable markets.
* **Sales Trend over Time:** A **line chart** showing the sum of total over time, using the invoice\_date. This helps in identifying seasonality and growth trends. You can add a hierarchy for year, quarter, and month.
* **Sales by Employee:** A **bar chart** showing the total sales generated by each sales support agent. You will need to join invoice, customer, and employee tables to get this information.
* **Sales by Media Type:** A **pie chart** showing the percentage of total sales from different media\_types (e.g., MPEG audio file, AAC audio file). You would need to link invoice\_line to media\_type through the missing track table.

**Page 2: Customer and Market Analysis**

This page dives deeper into customer behavior and geographical performance.

* **Customers by Country:** A **map visualization** that displays the number of customers (customer\_id) in each country. This can be combined with total sales to see if high-customer countries also have high sales.
* **Sales by City:** A **table** or **treemap** showing sales aggregated by billing\_city.
* **Customer Lifetime Value (CLV):** A calculated measure to find the total spending per customer. A **bar chart** displaying the top 10 customers by total spend would be a valuable insight.
* **Customer Demographics:** Use filters and slicers on this page to let users slice data by customer city, state, or country.

**Page 3: Product and Content Analysis**

This page focuses on the performance of your music catalog.

* **Top 10 Artists by Sales:** A **bar chart** or **table** ranking artists based on total revenue. This is a crucial metric for understanding which artists drive the most sales. You would need to join invoice\_line, the assumed track, and artist tables.
* **Top 10 Genres by Sales:** A **bar chart** or **pie chart** showing the top 10 genres by sales. This is vital for inventory management and marketing. This also requires the track table.
* **Top Selling Albums:** A **table** ranking albums by the number of tracks sold or total revenue.
* **Sales by Release Year:** A **bar chart** showing sales trends based on the release\_year of the albums.

**Part 4: Report Design and Interactivity**

* **Visual Consistency:** Use a consistent color palette and font style throughout the report.
* **Slicers:** Add interactive slicers for invoice\_date (allowing a date range selection), billing\_country, and artist\_name.
* **Tooltips:** Customize tooltips for your visuals to display additional information when a user hovers over a data point, such as specific revenue numbers or percentages.
* **Filters:** Use page-level filters to refine the data displayed on each page, for example, to focus on a specific country or year.

By following this structure, you will be able to build a professional, informative, and interactive Power BI report that provides deep insights into your music store's performance.