iTunes Business Performance Analysis

Submitted by: VIDYA PB

Course: 15 jan DA / BA Batch

Date: 24-02-2026

Executive Summary

This project analyses the business performance of the iTunes digital music store using PostgreSQL and Power BI. The objective of the analysis is to evaluate revenue trends, customer behaviour, geographic performance, and product category performance to derive meaningful business insights.

The total revenue generated during the analysed period is $4,709.43, from 614 total orders placed by 59 unique customers, resulting in an Average Revenue Per User (ARPU) of $79.82. Year-wise revenue analysis shows relatively stable sales performance with minor fluctuations across the years.

Country-level analysis highlights that certain countries contribute significantly higher revenue compared to others, indicating strong regional markets. Genre-based analysis reveals that specific music categories generate more revenue, helping identify high-performing product segments.

The dashboard created in Power BI provides interactive visualizations that allow dynamic filtering by year, country, and genre. This enables better business decision-making and performance tracking.

Overall, this project demonstrates how data analysis can support strategic decisions in digital music retail by identifying revenue drivers and customer trends.

Project Objectives & Problem Statement

1. Problem Statement

The digital music industry operates in a highly competitive environment where understanding customer behaviour, revenue trends, and product performance is essential for business growth. Without proper analysis, it becomes difficult to identify high-performing markets, valuable customers, and profitable product categories.

This project aims to analyse transactional data from the iTunes music store database to evaluate overall business performance and extract actionable insights using data analytics tools.

---

2. Project Objectives

The main objectives of this project are:

- To calculate total revenue generated by the business

- To analyse year-wise revenue trends

- To determine total number of customers and total orders

- To calculate Average Revenue Per User (ARPU)

- To identify top-performing countries based on revenue

- To identify high-value customers

- To analyse revenue contribution by music genre

- To design an interactive business dashboard using Power BI

Dataset Description & Data Modeling

Dataset Description

The dataset used in this project represents transactional data from the iTunes digital music store. It consists of multiple relational tables that store customer information, invoice records, and product-level sales details.

The key tables used in this analysis are:

- Customers – Contains customer details such as customer ID, name, country, and contact information.

- Invoices – Stores transaction-level information including invoice date, billing country, and total amount.

- Invoice_Items – Contains product-level sales data including track purchased, unit price, and quantity.

- Tracks – Stores information about individual music tracks.

- Genres – Contains classification of tracks into different music categories.

Data Relationships (Data Model)

The tables are connected using primary and foreign key relationships. The relationship flow is as follows:

Customers → Invoices → Invoice Items → Tracks → Genres

- A customer can have multiple invoices.

- Each invoice can contain multiple invoice items.

- Each invoice item corresponds to a specific track.

- Each track belongs to a specific genre.

This relational structure enables detailed revenue analysis at customer level, country level, and genre level.

Data Preparation & Technical Implementation

Database Connection

The iTunes dataset was stored in PostgreSQL. SQL queries were used to explore the dataset and validate key metrics such as total revenue, number of customers, and year-wise performance.

The PostgreSQL database was then connected to Power BI for visualization and dashboard development.

Data Modeling in Power BI

After importing the tables into Power BI:

- Relationships were created between tables in Model View.

- Proper one-to-many relationships were established between customers, invoices, invoice items, tracks, and genres.

- Data types were verified to ensure correct aggregation.

Calculated Column Created

A calculated column was created to extract year from invoice date:

Year = YEAR(invoice_date)

This enabled year-wise revenue trend analysis.

Key Measures Created (DAX)

The following DAX measures were created:

• Total Revenue = SUM(invoices[total])
• Total Orders = COUNT(invoices[invoice_id])
• Total Customers = DISTINCTCOUNT(customers[customer_id])
• ARPU = Total Revenue / Total Customers

For accurate genre-level revenue analysis:

• Total Sales = SUMX(invoice_items, unit_price × quantity)

Overall Business Performance Analysis

The overall business performance of the iTunes store was evaluated using key performance indicators (KPIs).

- **Total Revenue:** $4,709.43

- **Total Orders:** 614

- **Total Customers:** 59

- **Average Revenue Per User (ARPU):** $79.82

The total revenue of $4,709.43 indicates the total sales generated during the analyzed period. The 614 orders placed by 59 unique customers show that customers made multiple purchases over time.

The ARPU of $79.82 suggests that, on average, each customer contributes approximately $80 in revenue. This indicates a moderate customer spending behavior and reflects repeat purchasing patterns.

These KPIs provide a high-level understanding of overall business health and customer value.

4.71K	614	59	79.82
Total Revenue	Total Orders	Total Customers	ARPU

Year-wise Revenue Trend Analysis

Year-wise revenue analysis was performed to evaluate the business growth pattern over time.

The revenue distribution across the years is as follows:

- 2017: $1201.86

- 2018: $1147.41

- 2019: $1221.66

- 2020: $1138.50

The revenue trend shows relatively stable performance across the four years. The highest revenue was recorded in 2019, while 2020 shows a slight decline compared to previous years.

Although there are minor fluctuations, there is no drastic revenue drop, indicating consistent customer demand over time. The business demonstrates stability rather than rapid growth or decline.

This analysis helps management understand yearly performance variations and evaluate long-term sustainability.

Year	Revenue ($)
2017	1201.86
2018	1147.41
2019	1221.66
2020	1138.50

Country-wise Revenue Analysis

Country-level revenue analysis was conducted to identify the strongest geographic markets for the business.

The analysis shows that certain countries contribute significantly higher revenue compared to others. A small group of countries accounts for a major share of total sales, indicating concentrated market strength.

This uneven distribution suggests that the business performs better in specific regions, while other countries contribute comparatively lower revenue.

Understanding geographic performance is important for:

- Identifying high-performing markets

- Planning regional marketing strategies

- Allocating resources efficiently

- Expanding into underperforming regions

The findings indicate that focusing on top-performing countries can further increase revenue through targeted promotions and customer engagement strategies.

Customer Analysis

Customer-level analysis was performed to understand purchasing behaviour and revenue contribution patterns.

The dataset consists of **59 unique customers** who collectively generated 614 orders. This indicates that customers made multiple purchases over time, suggesting repeat buying behaviour.

The **Average Revenue Per User (ARPU) of $79.82** shows that each customer contributes approximately $80 in revenue on average. This reflects moderate customer spending and indicates a stable customer base.

Further analysis of top customers reveals that a small group of customers contributes a higher share of total revenue. This suggests that the business has certain high-value customers who significantly impact overall performance.

Identifying such customers is important for:

- Loyalty programs

- Personalized marketing

- Retention strategies

- Increasing lifetime customer value

Overall, the customer analysis highlights the importance of repeat purchases and customer retention in driving revenue growth.

Genre (Product Category) Performance Analysis

Genre-level analysis was conducted to evaluate product category performance and identify high-performing music segments.

The analysis shows that revenue contribution varies across different genres. Some genres generate significantly higher revenue compared to others, indicating stronger customer demand in those categories.

This variation highlights the importance of understanding product preferences and aligning inventory and marketing strategies accordingly.

High-performing genres represent core revenue drivers for the business and should be prioritized for:

- Promotional campaigns

- Recommendation systems

- Featured listings

- Expansion of similar music categories

On the other hand, lower-performing genres may require targeted marketing strategies or pricing adjustments to improve performance.

Overall, genre-wise analysis helps the business understand customer taste patterns and optimize product offerings to maximize revenue.

Conclusion & Business Recommendations

This project analysed the iTunes digital music store dataset to evaluate overall business performance using PostgreSQL and Power BI. The analysis covered revenue trends, customer behaviour, geographic performance, and genre-level product analysis.

The findings show that the business generated stable revenue across multiple years with consistent customer purchasing activity. A small group of countries and customers contribute significantly to total revenue, indicating concentrated revenue sources.

Genre-level analysis revealed that certain music categories act as key revenue drivers, suggesting strong customer preference patterns.

Based on the analysis, the following recommendations are suggested:

- Focus marketing efforts on top-performing countries to maximize regional growth.

- Develop loyalty programs to retain high-value customers.

- Promote high-performing genres through targeted campaigns.

- Use year-wise trend analysis to forecast future sales performance.

- Improve performance in lower-revenue regions and genres through strategic marketing initiatives.

Overall, this project demonstrates how business intelligence tools can transform raw transactional data into actionable insights that support strategic decision-making.