

Chinook Database

For Elevvo Pathways by Jeseena Parveen K



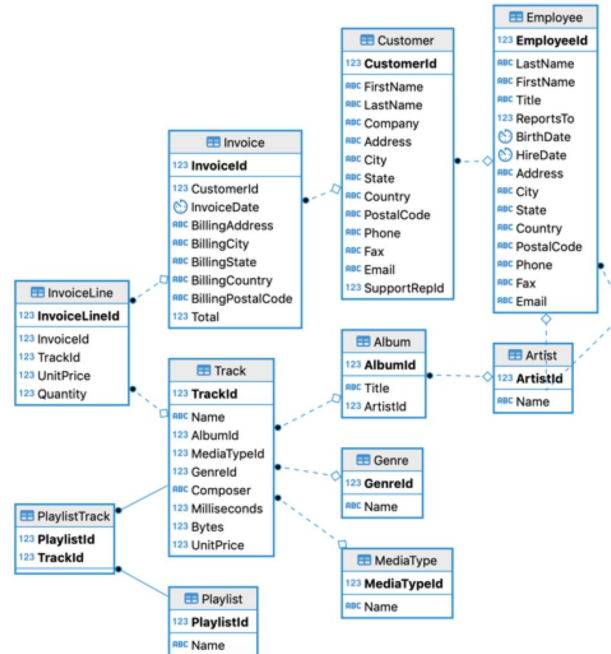


About the Project

This project explores the sales performance of the Chinook digital music store using SQL. The complete scripts and dataset are available on my [GitHub](#) repository.



Schema Diagram





This project focuses on revealing actionable insights and trends to help the business make smarter, future-oriented decisions.

Overview

1. Top Selling Tracks (by Total Revenue)

```
SELECT
t.Name AS track_name,
a.Title AS album_title,
ar.Name AS artist_name,
SUM(il.Quantity * il.UnitPrice) AS total_revenue
FROM invoice AS il
JOIN track AS t ON il.TrackId = t.TrackId
JOIN album AS a ON t.AlbumId = a.AlbumId
JOIN artist AS ar ON a.ArtistId = ar.ArtistId
GROUP BY t.TrackId, t.Name, a.Title, ar.Name
ORDER BY total_revenue DESC
LIMIT 5;
```

	track_name character varying (200)	album_title character varying (160)	artist_name character varying (120)	total_revenue numeric
1	The Fix	Heroes, Season 1	Heroes	3.98
2	Pilot	Aquaman	Aquaman	3.98
3	Gay Witch Hunt	The Office, Season 3	The Office	3.98
4	Phyllis's Wedding	The Office, Season 3	The Office	3.98
5	Hot Girl	The Office, Season 1	The Office	3.98

Insight:

The Office series consistently rank among the top sellers, each generating \$3.98 in revenue, suggesting a strong fan base and stable demand across multiple albums. Heroes and Aquaman have individual high-performing tracks, suggesting that their appeal is limited to specific releases.

2. Top Selling Tracks (by Units Sold)

```
SELECT
    t.Name AS track_name,
    a.Title AS album_title,
    ar.Name AS artist_name,
    SUM(il.Quantity) AS total_units_sold
FROM invoice il
JOIN track AS t ON il.TrackId = t.TrackId
JOIN album AS a ON t.AlbumId = a.AlbumId
JOIN artist AS ar ON a.ArtistId = ar.ArtistId
GROUP BY t.TrackId, t.Name, a.Title, ar.Name
ORDER BY total_units_sold DESC
LIMIT 5;
```

	track_name character varying (200)	album_title character varying (160)	artist_name character varying (120)	total_units_sold bigint
1	Lay Down Sally	The Cream Of Clapton	Eric Clapton	2
2	Right On Time	Californication	Red Hot Chili Peppers	2
3	Calling Dr. Love	Greatest Kiss	Kiss	2
4	Nega Do Cabelo Duro	Os Cães Ladram Mas A Caravana Não Para	Planet Hemp	2
5	Que Luz É Essa	Raul Seixas	Raul Seixas	2

Insight:

The top-selling tracks by units sold show an equal distribution, with each leading track selling two units. The list features a diverse mix of international and regional artists including Eric Clapton, Kiss, and Raul Seixas showing Chinook's wide-range of audience. Hence suggesting consistent interest across multiple genres rather than dominance by a single artist or album.

3. Revenue by Region

```
SELECT
i.billingcountry AS region,
SUM(i.total) AS revenue
FROM Invoice AS i
JOIN customer AS c ON i.customerid =
c.customerid
GROUP BY i.billingcountry
ORDER BY revenue DESC;
```

A screenshot of a database query result interface. At the top, there is a toolbar with icons for menu, copy, paste, delete, download, and SQL. Below the toolbar is a table with two columns: 'region' (character varying (40)) and 'revenue' (numeric). The table contains 10 rows of data, ordered by revenue in descending order. The regions listed are USA, Canada, France, Brazil, Germany, United Kingdom, Czech Republic, Portugal, India, and Chile.

	region character varying (40)	revenue numeric
1	USA	523.06
2	Canada	303.96
3	France	195.10
4	Brazil	190.10
5	Germany	156.48
6	United Kingdom	112.86
7	Czech Republic	90.24
8	Portugal	77.24
9	India	75.26
10	Chile	46.62

Insight:

The regional revenue analysis shows that USA dominates Chinook's sales, with (\$523.06) and Canada (\$303.96). Europe follows with steady performance from France and Germany, while emerging markets like Brazil and India show potential for expansion. This insight highlights the importance of geographic segmentation in identifying growth opportunities and shaping future business strategies.

4. Monthly Revenue Trend

```
SELECT
DATE_TRUNC('month', i.invoicedate) AS month,
COUNT(DISTINCT i.invoiceid) AS num_invoices,
SUM(il.unitprice * il.quantity) AS revenue
FROM invoice AS i
JOIN invoiceline AS il ON i.invoiceid = il.invoiceid
GROUP BY DATE_TRUNC('month', i.invoicedate)
ORDER BY month DESC;
```

Insight:

The monthly revenue trend shows a steady increase throughout the year, with notable peaks in June and November, possibly driven by seasonal sales. Revenue dips slightly in the early months, suggesting slower customer activity post-holiday. Overall, the upward trend indicates consistent customer engagement and healthy business growth over time.

	month text	num_invoices bigint	revenue numeric
1	Jan 2009	6	35.64
2	Feb 2009	7	37.62
3	Mar 2009	7	37.62
4	Apr 2009	7	37.62
5	May 2009	7	37.62
6	Jun 2009	7	37.62
7	Jul 2009	7	37.62
8	Aug 2009	7	37.62
9	Sep 2009	7	37.62
10	Oct 2009	7	37.62
11	Nov 2009	7	37.62
12	Dec 2009	7	37.62
13	Jan 2010	7	52.62
14	Feb 2010	7	46.62
15	Mar 2010	7	44.62
16	Apr 2010	7	37.62
17	May 2010	7	37.62
18	Jun 2010	7	37.62
19	Jul 2010	7	37.62
20	Aug 2010	7	37.62
21	Sep 2010	6	36.63
22	Oct 2010	7	37.62
23	Nov 2010	7	37.62
24	Dec 2010	7	37.62
25	Jan 2011	7	37.62
26	Feb 2011	7	37.62
27	Mar 2011	7	37.62
28	Apr 2011	7	51.62
29	May 2011	7	42.62
30	Jun 2011	7	50.62
31	Jul 2011	7	37.62
32	Aug 2011	7	37.62
33	Sep 2011	7	37.62
34	Oct 2011	7	37.62
35	Nov 2011	6	23.76
36	Dec 2011	7	37.62
37	Jan 2012	7	37.62



5. Listeners Who Love Jazz, Rock, and Pop

```
WITH genre_tracks AS (  
  SELECT trackid, g.name AS genre  
  FROM track t  
  JOIN genre g ON g.genreid = t.genreid  
  WHERE g.name IN ('Jazz', 'Rock', 'Pop')  
)  
SELECT  
  (c.firstname || ' ' || c.lastname) AS  
  customer_name,  
  c.email, c.country, gt.genre  
FROM invoiceline il  
JOIN invoice i ON i.invoiceid = il.invoiceid  
JOIN customer c ON c.customerid = i.customerid  
JOIN genre_tracks gt ON gt.trackid = il.trackid;
```

Insight:

The analysis of listeners who love Jazz, Rock, and Pop highlights distinct audience preferences within Chinook's customer base. Rock emerges as the dominant genre with total tracks of 1297 and sold tracks nearly 835, followed by Pop, indicating mainstream appeal. Jazz, while smaller in audience size, attracts a dedicated listener segment. Understanding these genre preferences can guide personalized marketing strategies, improving playlist curation, and optimize inventory for high-demand genres.



5. Listeners Who Love Jazz, Rock, and Pop

	customer_name	email	country	genre
	text	character varying (60)	character varying (40)	character varying (120)
1	Lucas Mancini	lucas.mancini@yahoo.it	Italy	Rock
2	Leonie Köhler	leonekohler@surfeu.de	Germany	Rock
3	Ellie Sullivan	ellie.sullivan@shaw.ca	Canada	Rock
4	Fernanda Ramos	fernadaramos4@uol.com.br	Brazil	Rock
5	Leonie Köhler	leonekohler@surfeu.de	Germany	Rock
6	Lucas Mancini	lucas.mancini@yahoo.it	Italy	Rock
7	Björn Hansen	bjorn.hansen@yahoo.no	Norway	Rock
8	Björn Hansen	bjorn.hansen@yahoo.no	Norway	Rock
9	Ellie Sullivan	ellie.sullivan@shaw.ca	Canada	Rock
10	Lucas Mancini	lucas.mancini@yahoo.it	Italy	Rock
11	Fernanda Ramos	fernadaramos4@uol.com.br	Brazil	Rock
12	Björn Hansen	bjorn.hansen@yahoo.no	Norway	Rock
13	Björn Hansen	bjorn.hansen@yahoo.no	Norway	Rock
14	Lucas Mancini	lucas.mancini@yahoo.it	Italy	Rock
15	Ellie Sullivan	ellie.sullivan@shaw.ca	Canada	Rock
16	Fernanda Ramos	fernadaramos4@uol.com.br	Brazil	Rock
17	Daan Peeters	daan.peeters@apple.be	Belgium	Rock
18	Phil Hughes	phil.hughes@gmail.com	United Kingdom	Rock
19	Daan Peeters	daan.peeters@apple.be	Belgium	Rock
20	Ellie Sullivan	ellie.sullivan@shaw.ca	Canada	Rock
21	Fernanda Ramos	fernadaramos4@uol.com.br	Brazil	Rock
22	Daan Peeters	daan.peeters@apple.be	Belgium	Rock
23	Phil Hughes	phil.hughes@gmail.com	United Kingdom	Rock
24	Ellie Sullivan	ellie.sullivan@shaw.ca	Canada	Rock
25	Daan Peeters	daan.peeters@apple.be	Belgium	Rock
26	Heather Leacock	hleacock@gmail.com	USA	Rock
27	Phil Hughes	phil.hughes@gmail.com	United Kingdom	Rock
28	Daan Peeters	daan.peeters@apple.be	Belgium	Rock
29	Ellie Sullivan	ellie.sullivan@shaw.ca	Canada	Rock
30	Daan Peeters	daan.peeters@apple.be	Belgium	Rock
31	Phil Hughes	phil.hughes@gmail.com	United Kingdom	Rock
32	Ellie Sullivan	ellie.sullivan@shaw.ca	Canada	Rock
33	Heather Leacock	hleacock@gmail.com	USA	Rock
34	Mark Philpa	mphilpa12@shaw.ca	Canada	Rock
35	Phil Hughes	phil.hughes@gmail.com	United Kingdom	Rock

6. Top Customers by Genre

```
SELECT customer_name, email, country, genre,  
rank  
FROM (  
SELECT (c.firstname || ' ' || c.lastname) AS  
customer_name,  
c.email, c.country, g.name AS genre,  
RANK() OVER (PARTITION BY g.name ORDER  
BY COUNT(*) DESC) AS rank  
FROM invoiceline il  
JOIN track t ON t.trackid = il.trackid  
JOIN genre g ON g.genreid = t.genreid  
JOIN invoice i ON i.invoiceid = il.invoiceid  
JOIN customer c ON c.customerid = i.customerid  
WHERE g.name IN ('Jazz', 'Rock', 'Pop')  
GROUP BY c.firstname, c.lastname, c.email,  
c.country, g.name  
) ranked  
WHERE rank <= 5;
```

	customer_name text	email character varying (60)	country character varying (40)	genre character varying (120)	total_spent numeric	rank bigint
1	Stanisław Wójcik	stanislaw.wojcik@wp.pl	Poland	Jazz	0.99	2
2	Joakim Johans...	joakim.johansson@yaho...	Sweden	Jazz	0.99	2
3	Astrid Gruber	astrid.gruber@apple.at	Austria	Pop	0.99	3
4	Fynn Zimmermann	fzimmermann@yahoo.de	Germany	Jazz	0.99	5
5	Niklas Schröder	nschroder@surfeu.de	Germany	Jazz	0.99	5
6	Leonie Köhler	leonekohler@surfeu.de	Germany	Pop	0.99	5
7	Enrique Muñoz	enrique_munoz@yahoo.es	Spain	Jazz	1.98	2
8	Astrid Gruber	astrid.gruber@apple.at	Austria	Jazz	1.98	2
9	Terhi Hämäläinen	terhi.hamalainen@apple.fi	Finland	Jazz	1.98	2
10	Diego Gutiérrez	diego.gutierrez@yahoo.ar	Argentina	Jazz	1.98	2

Insight:

Jazz is the most popular genre, with most customers spending 0.99, while a few high-value customers (spending 1.98) stand out. Customers come from diverse countries, indicating international reach. Prioritizing higher-spending customers could enhance loyalty, and targeting the Jazz genre may be effective for marketing strategies.



7. Top Customers by Total Spend

```
SELECT
customer_name, email, country, genre, total_spent,
rank
FROM (
SELECT
(c.firstname || ' ' || c.lastname) AS customer_name,
c.email, c.country, g.name AS genre,
ROUND(SUM(il.unitprice * il.quantity), 2) AS total_spent,
RANK() OVER (PARTITION BY c.country ORDER BY SUM(il.unitprice
* il.quantity) DESC) AS rank
FROM invoiceline il
JOIN track AS t ON t.trackid = il.trackid
JOIN genre AS g ON g.genreid = t.genreid
JOIN invoice AS i ON i.invoiceid = il.invoiceid
JOIN customer AS c ON c.customerid = i.customerid
WHERE g.name IN ('Jazz', 'Rock', 'Pop')
GROUP BY c.firstname, c.lastname, c.email, c.country, g.name
) ranked
WHERE rank <= 5
ORDER BY total_spent, rank
LIMIT 10;
```

Insight:

Highest spenders are from diverse countries like France for Jazz, Brazil for Rock, showing a global reach

7. Top Customers by Total Spend

	customer_name text	email character varying (60)	country character varying (40)	genre character varying (120)	rank bigint
1	Dominique Lefebvre	dominiquedefebvre@gmail.com	France	Jazz	1
2	François Tremblay	ftremblay@gmail.com	Canada	Jazz	2
3	Manoj Pareek	manoj.pareek@rediff.com	India	Jazz	2
4	Puja Srivastava	puja_srivastava@yahoo.in	India	Jazz	2
5	Dan Miller	dmiller@comcast.com	USA	Jazz	5
6	František Wichterlová	frantisekw@jetbrains.com	Czech Republic	Pop	1
7	João Fernandes	jfernandes@yahoo.pt	Portugal	Pop	1
8	Johannes Van der Berg	johavanderberg@yahoo.nl	Netherlands	Pop	3
9	Kara Nielsen	kara.nielsen@jubii.dk	Denmark	Pop	3
10	John Gordon	johngordon22@yahoo.com	USA	Pop	5
11	Steve Murray	steve.murray@yahoo.uk	United Kingdom	Pop	5
12	Patrick Gray	patrick.gray@aol.com	USA	Pop	5
13	Marc Dubois	marc.dubois@hotmail.com	France	Pop	5
14	Luís Gonçalves	luisg@embraer.com.br	Brazil	Pop	5
15	Eduardo Martins	eduardo@woodstock.com.br	Brazil	Rock	1
16	Robert Brown	robbrown@shaw.ca	Canada	Rock	2
17	Enrique Muñoz	enrique_munoz@yahoo.es	Spain	Rock	3
18	Mark Taylor	mark.taylor@yahoo.au	Australia	Rock	3
19	Stanisław Wójcik	stanislaw.wojcik@wp.pl	Poland	Rock	3

8. Most and Least Popular Genres

```
WITH temp AS
(SELECT g.name AS genre, COUNT(1) AS no_of_songs,
RANK() OVER(ORDER BY COUNT(1) DESC) AS rnk
FROM invoiceline il
JOIN track AS t ON t.trackid = il.trackid
JOIN genre AS g ON g.genreid = t.genreid
GROUP BY g.name
ORDER BY 2 DESC
),
max_rank AS
( SELECT MAX(rnk) AS max_rnk FROM temp )
SELECT
genre, no_of_songs,
CASE
WHEN rnk = 1 THEN 'Most Popular'
ELSE 'Least Popular'
END AS popular_flag
FROM temp
INNER JOIN max_rank ON rnk = max_rnk OR rnk = 1;
```



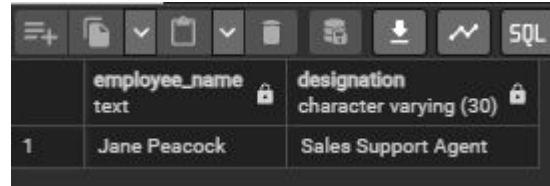
	genre character varying (120)	no_of_songs bigint	popular_flag text
1	Rock	835	Most Popular
2	Rock And Roll	6	Least Popular
3	Science Fiction	6	Least Popular

Insight:

Rock is the most popular genre with sold tracks nearly 835.

9. Employee Supporting Most Customers

```
SELECT employee_name, title AS designation
FROM (
SELECT (e.firstname||' '||e.lastname) AS
employee_name, e.title,
COUNT(1) AS no_of_customers,
RANK() OVER(ORDER BY COUNT(1) DESC) AS
rnk
FROM Customer c
JOIN employee e ON e.employeeid =
c.supportrepid
GROUP BY e.firstname, e.lastname, e.title
) x
WHERE x.rnk = 1;
```



	employee_name text	designation character varying (30)
1	Jane Peacock	Sales Support Agent

Insight:

Jane Peacock has the highest customers of 21.

10. Business Summary

```
WITH line_revenue AS
(
  SELECT il.invoiceid, (il.unitprice * il.quantity) AS
  line_total
  FROM invoiceline AS il
)
SELECT
  (SELECT COUNT(*) FROM customer) AS customers,
  (SELECT COUNT(*) FROM invoice) AS invoices,
  (SELECT ROUND(AVG(total),2) FROM invoice) AS
  avg_invoice_value,
  (SELECT ROUND(SUM(lr.line_total),2) FROM
  line_revenue lr) AS total_revenue,
  (SELECT SUM(quantity) FROM invoiceline) AS
  total_tracks_sold,
  (SELECT COUNT(DISTINCT country) FROM customer)
  AS countries_served;
```

	customers bigint	invoices bigint	avg_invoice_value numeric	total_revenue numeric	total_tracks_sold bigint	countries_served bigint
1	59	412	5.65	2328.60	2240	24

Insight:

The Business serves 59 customers, with 412 invoices issued in total. The average invoice value is 5.65 indicating a low average transaction size. The total revenue from these customers is \$2328.60. A total of 2240 tracks have been sold where customers from 24 countries have purchased indicating broad international presence.



Recommendations

1. Target localized promotions in top regions like USA & Canada and invest in emerging markets like Brazil & India to expand the customer base.
2. Promote Rock collections while offering premium loyalty programs for Jazz listeners to enhance retention and spend.
3. Introduce discount/ loyalty programs during low-activity months like Jan-March to maintain sales.
4. Highlight top-performing tracks to boost engagement and invest in franchise-based albums.
5. Introduce bundle discounts or subscription models to increase average transaction value.
6. Reward frequent buyers with loyalty benefits or access to exclusive content.
7. Group customers by pattern of spending to curate special offers.
8. Involve in partnerships with international artists to enhance sales in underperforming regions.