Chinook Music Genre Marketing & Sales Opportunities

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Data analysis to determine marketing and sales opportunities for Chinook Music Store.

* Analysis 1: Analyzed data to determine which of the following four new artists Chinook should sell in the United States.

Artist Name: *Genre*:

Regal *Hip-Hop*

Red Tone *Punk*

Meteor and the Girls *Pop*

Slim Jim Bites *Blues*

* Analysis 2: Analyzed genre sales by country to determine marketing and sales recommendations.

Opened database connection with SQLite to chinook.db.

conn <- dbConnect(SQLite(), "chinook.db")  
tables <- dbListTables(conn)  
view(tables)

query <- "SELECT \* FROM customer LIMIT 5"  
customer\_table <- dbGetQuery(conn, query)

query <- "SELECT \* FROM invoice\_line LIMIT 5"  
invoice\_line\_table <- dbGetQuery(conn, query)

The results of query2 show that of the four genres of the potential artists, Alternative & Punk, Blues, and Pop had the highest percentage of sales in the United States. Recommendation: Sell the Red Tone album in the United States, as Alternative & Punk had the highest sales of the four genres. Observation: It is worth noting that outside of the new artists, the Rock genre has the highest percentage of total U.S. sales at 53.38%.

query2 <-   
"WITH total\_tracks\_sold\_USA AS  
 (  
 SELECT il.\*  
 FROM invoice\_line il  
 INNER JOIN invoice i ON i.invoice\_id = il.invoice\_id  
 WHERE i.billing\_country = 'USA'  
 )  
SELECT   
 g.name genre\_name,   
 COUNT(tts.quantity) total\_tracks,  
 ROUND(CAST(COUNT(tts.quantity) as Float) / (  
 SELECT COUNT(\*) from total\_tracks\_sold\_USA  
 ) \* 100, 2) Percentage\_sold  
FROM genre g  
INNER JOIN track t ON t.genre\_id = g.genre\_id  
INNER JOIN total\_tracks\_sold\_USA tts ON tts.track\_id = t.track\_id  
GROUP by 1 ORDER BY 1"  
result2 <- dbGetQuery(conn, query2)  
print(result2)

***Genre percentage of sales in USA*** *(result2)*

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | genre\_name | | total\_tracks | | Percentage\_  sold | |
| 1 | Alternative | | 35 | | 3.33 | |
| 2 | Alternative & Punk | | 130 | | 12.37 | |
| 3 | Blues | | 36 | | 3.43 | |
| 4 | Classical | | 4 | | 0.38 | |
| 5 | | Easy Listening | | 13 | | 1.24 |
| 6 | Electronica/Dance | | 5 | | 0.48 | |
| 7 | Heavy Metal | | 3 | | 0.29 | |
| 8 | Hip Hop/Rap | | 20 | | 1.90 | |
| 9 | Jazz | | 14 | | 1.33 | |
| 10 | Latin | | 22 | | 2.09 | |
| 11 | Metal | | 124 | | 11.80 | |
| 12 | Pop | | 22 | | 2.09 | |
| 13 | R&B/Soul | | 53 | | 5.04 | |
| 14 | Reggae | | 6 | | 0.57 | |
| 15 | Rock | | 561 | | 53.38 | |
| 16 | Soundtrack | | 2 | | 0.19 | |
| 17 | TV Shows | | 1 | | 0.10 | |

Given the observation above regarding sales of Rock albums in the U.S., I broadened my analysis to gather customers per country, total sales, and average order per country. 15 countries had just one order each; I grouped these together in the “Other” column.

query4 <- "WITH country\_count AS  
 (SELECT   
 CASE  
 WHEN (  
 SELECT COUNT(\*)  
 FROM customer  
 WHERE country = c.country  
 ) = 1 THEN 'Other'  
 ELSE c.country   
 END AS country,  
 c.customer\_id,  
 il.\*  
 FROM invoice\_line il  
 INNER JOIN invoice i ON i.invoice\_id = il.invoice\_id  
 INNER JOIN customer c ON c.customer\_id = i.customer\_id  
 )  
SELECT   
 country,  
 customers\_per\_country,  
 total\_sales,  
 average\_order\_per\_customer,  
 customer\_lifetime\_value  
FROM  
 (SELECT  
 country,  
 COUNT(DISTINCT customer\_id) customers\_per\_country,  
 SUM(unit\_price) total\_sales,  
 SUM(unit\_price) / COUNT(DISTINCT invoice\_id) average\_order\_per\_customer,  
 SUM(unit\_price) / COUNT(DISTINCT customer\_id) customer\_lifetime\_value,  
 CASE   
 WHEN country = 'Other' THEN 1  
 ELSE 0  
 END AS sort\_other  
 FROM country\_count  
 GROUP BY country   
 ORDER BY sort\_other ASC, total\_sales DESC  
 )"  
result4 <- dbGetQuery(conn, query4)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Customers per Country** (result4) | | | | | |
|  | country | customers\_  per\_country | total\_sales | average\_  order\_per\_  customer | customer\_  lifetime\_  value |
| 1 | USA | 13 | 1040.49 | 7.94267176 | 80.0376923 |
| 2 | Canada | 8 | 535.59 | 7.04723684 | 66.94875 |
| 3 | Brazil | 5 | 427.68 | 7.01114754 | 85.536 |
| 4 | France | 5 | 389.07 | 7.7814 | 77.814 |
| 5 | Germany | 4 | 334.62 | 8.16146341 | 83.655 |
| 6 | Czech Republic | 2 | 273.24 | 9.108 | 136.62 |
| 7 | United Kingdom | 3 | 245.52 | 8.76857143 | 81.84 |
| 8 | Portugal | 2 | 185.13 | 6.3837931 | 92.565 |
| 9 | India | 2 | 183.15 | 8.72142857 | 91.575 |
| 10 | Other | 15 | 1094.94 | 7.44857143 | 72.996 |

The top three countries represent 44% of the total customers.

total\_customers <- sum(result4$customers\_per\_country)  
  
top\_three\_countries\_perc <- (sum(result4$customers\_per\_country[1:3]) / total\_customers) \* 100

print(top\_three\_countries\_perc)

[1] 44.0678

I also queried Canada’s and Brazil’s highest selling genre. Both countries’ customers bought significantly more rock albums than any other type: Canada, 62% and Brazil, 47%. Recommendation: for the top three countries, United States, Canada, and Brazil, seek out opportunities to market and sell rock albums to consumers.

query6 <-   
"WITH total\_tracks\_sold\_Canada AS  
 (  
 SELECT il.\*  
 FROM invoice\_line il  
 INNER JOIN invoice i ON i.invoice\_id = il.invoice\_id  
 WHERE i.billing\_country = 'Canada'  
 )  
SELECT   
 g.name genre\_name,   
 COUNT(tts.quantity) total\_tracks,  
 ROUND(CAST(COUNT(tts.quantity) as Float) / (  
 SELECT COUNT(\*) from total\_tracks\_sold\_Canada  
 ) \* 100, 2) Percentage\_sold  
FROM genre g  
INNER JOIN track t ON t.genre\_id = g.genre\_id  
INNER JOIN total\_tracks\_sold\_Canada tts ON tts.track\_id = t.track\_id  
GROUP by 1 ORDER BY 1"  
result6 <- dbGetQuery(conn, query6)  
print(result6)

|  |  |  |  |
| --- | --- | --- | --- |
| *Canada Sales by Genre (result6)* | | | |
|  | genre\_name | total\_tracks | Percentage\_sold |
| 1 | Alternative | 22 | 4.07 |
| 2 | Alternative & Punk | 31 | 5.73 |
| 3 | Blues | 14 | 2.59 |
| 4 | Classical | 3 | 0.55 |
| 5 | Easy Listening | 5 | 0.92 |
| 6 | Electronica/Dance | 2 | 0.37 |
| 7 | Hip Hop/Rap | 2 | 0.37 |
| 8 | Jazz | 7 | 1.29 |
| 9 | Latin | 13 | 2.4 |
| 10 | Metal | 72 | 13.31 |
| 11 | Pop | 3 | 0.55 |
| 12 | R&B/Soul | 29 | 5.36 |
| 13 | Reggae | 4 | 0.74 |
| 14 | Rock | 333 | 61.55 |
| 15 | Soundtrack | 1 | 0.18 |
|  |  |  |  |

query7 <-   
"WITH total\_tracks\_sold\_Brazil AS  
 (  
 SELECT il.\*  
 FROM invoice\_line il  
 INNER JOIN invoice i ON i.invoice\_id = il.invoice\_id  
 WHERE i.billing\_country = 'Brazil'  
 )  
SELECT   
 g.name genre\_name,   
 COUNT(tts.quantity) total\_tracks,  
 ROUND(CAST(COUNT(tts.quantity) as Float) / (  
 SELECT COUNT(\*) from total\_tracks\_sold\_Brazil  
 ) \* 100, 2) Percentage\_sold  
FROM genre g  
INNER JOIN track t ON t.genre\_id = g.genre\_id  
INNER JOIN total\_tracks\_sold\_Brazil tts ON tts.track\_id = t.track\_id  
GROUP by 1 ORDER BY 1"  
result7 <- dbGetQuery(conn, query7)  
print(result7)

|  |  |  |  |
| --- | --- | --- | --- |
| Brazil Sales by Genre | | | |
|  | genre\_name | total\_tracks | Percentage\_sold |
| 1 | Alternative | 3 | 0.69 |
| 2 | Alternative & Punk | 74 | 17.13 |
| 3 | Blues | 3 | 0.69 |
| 4 | Classical | 7 | 1.62 |
| 5 | Easy Listening | 5 | 1.16 |
| 6 | Electronica/Dance | 14 | 3.24 |
| 7 | Jazz | 20 | 4.63 |
| 8 | Latin | 13 | 3.01 |
| 9 | Metal | 73 | 16.9 |
| 10 | Pop | 4 | 0.93 |
| 11 | R&B/Soul | 10 | 2.31 |
| 12 | Reggae | 1 | 0.23 |
| 13 | Rock | 205 | 47.45 |

**Recommendations:**

* Analysis 1: Market the Red Tone album in the United States, given that punk has the highest sales percentage of the potential albums’ four genres.
* Analysis 2: United States, Canada, and Brazil contain 44% of the total customers for Chinook, and Rock is the top selling genre for each country. I suggest focusing on marketing and sales for rock albums in each country.

**Area for Future Analysis:**

Determine which, if any, artists in Rock genre sell the most in U.S., Canada, and Brazil, and if applicable, determine if there are more albums that Chinook could obtain to sell in these countries.