

# The Roster

---

## Report By:

Kanchana Sundar

## Summary:

The task is to determine which genre and decade of artists in which to invest and advertise.

### Basic assumptions made:

- There's one general audience for both listening and advertising.
- Rates of streaming are consistent from year to year without investment or advertising.
- The amount of investment is to be the same regardless of the artist's genre or decade.
- The recording costs for each artist is to be the same regardless of the artist's genre or decade.
- Taking into account situation factors such as Covid-19 which has greatly disrupted the way music is being consumed.

### Introduction

Streaming has drastically changed the way people are consuming music, especially so in our current times whereby Covid-19 is ruling almost every facet of our lives. Due to Covid-19, musicians have been restricted from going on tours and performing live in musical festivals. Also, with the advent of technology and different musical streaming services such as Apple, Spotify, Tidal etc., music enthusiasts now have a variety of options to consume music in this digital age.

According to an article by The New York Times, the pandemic has changed the way we analyze and evaluate the revenue from streaming as the economics of music streaming has been altered. There is a new and emerging market for streaming and there is a large opportunity for investing and advertising in this new market. However, there is a need to be tactful in choosing the artist and genre to invest in.

## Data Preparation

Artist	Genre	Abbreviation
Post Malone	Hip Hop	PM
DMX	Hip Hop	DMX
Drake	Hip Hop	DK

The Notorious B.I.G.	Hip Hop	BIG
Ice Cube	Hip Hop	IC
N.W.A.	Hip Hop	NWA
Aesop Rock	Hip Hop	AR
The Weekend	Hip Hop	TW
MegaDeth	Metal	MD
Motley Crue	Metal	MC
Black Sabbath	Metal	BS
Metallica	Metal	MTL
Machine Gun Kelly	Pop	MGK
Lady Gaga	Pop	LG
Elton John	Pop	EJ
Ed Sheeran	Pop	ES
Bruno Mars	Pop	BM
AJR	Pop	AJR
Lil Nas X	Pop	LNK
Lana Del Rey	Pop	LDR
Billie Eilish	Pop	BE
Panic! At The Disco	Pop	PATD
Curtis Harding	R&B	CH
Diana Ross	R&B	DR
H.E.R.	R&B	HER
Stevie Wonder	R&B	SW
Marvin Gaye	R&B	MG
Rush	Rock	R
New York Dolls	Rock	NYD
The Tragically Hip	Rock	TTH
Foo Fighters	Rock	FF
Oasis	Rock	OS
Neil Young	Rock	NY
Blur	Rock	B
The Who	Rock	TW
The Cranberries	Rock	TC
Pearl Jam	Rock	PJ
Radiohead	Rock	RH
Lenny Kravitz	Rock	LK
David Bowie	Rock	DB
Weezer	Rock	WZ

Green Day	Rock	GD
The Rolling Stones	Rock	TRS
Led Zepplin	Rock	LZ
Aerosmith	Rock	AS
Eric Clapton	Rock	EC
The Beatles	Rock	TB
Nirvana	rock	NIR
Queen	Rock	Q

**Figure 1: Artists and their abbreviations**

For the purpose of the analysis and for better visualization of the data, I have abbreviated the names of the artists as seen in Figure 1(a).

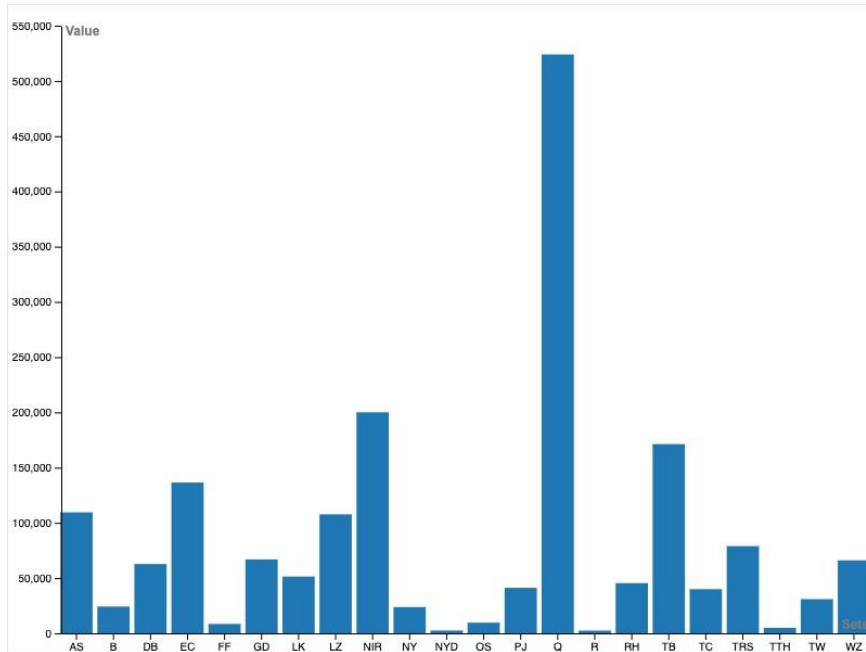
Artist	Genre	Decade	Rate	Streams	Revenue
Machine Gun Kelly	Pop	2010	0.00069	1763113	1216.54797
Rush	Rock	1980	0.00069	3536180	2439.9642
New York Dolls	Rock	1970	0.00069	3690895	2546.71755
Post Malone	Hip Hop	2010	0.004	814269	3257.076
The Tragically Hip	Rock	1990	0.00735	673599	4950.95265
Curtis Harding	R&B	2010	0.00069	7198539	4966.99191
Foo Fighters	Rock	2000	0.00069	12277284	8471.32596
DMX	Hip Hop	2000	0.00735	1185553	8713.81455
Oasis	Rock	2000	0.00069	13943957	9621.33033
Lady Gaga	Pop	2000	0.004	2810121	11240.484
Drake	Hip Hop	2010	0.00069	19189935	13241.05515
Diana Ross	R&B	1970	0.004	4672163	18688.652
The Notorious B.I.G.	Hip Hop	2000	0.004	5279163	21116.652
H.E.R.	R&B	2010	0.00735	2876370	21141.3195
Elton John	Pop	1980	0.00069	31609401	21810.48669
MegaDeth	Metal	1990	0.00735	3007020	22101.597
Neil Young	Rock	1960	0.004	5933737	23734.948
Blur	Rock	1990	0.004	6050672	24202.688
Ed Sheeran	Pop	2000	0.004	6578068	26312.272
Ice Cube	Hip Hop	1990	0.004	6851914	27407.656
N.W.A.	Hip Hop	1990	0.00735	3899390	28660.5165
Bruno Mars	Pop	2000	0.004	7353029	29412.116
The Who	Rock	1970	0.004	7727159	30908.636
Motley Crue	Metal	1980	0.00735	5116794	37608.4359
AJR	Pop	2010	0.0125	3030221	37877.7625

The Cranberries	Rock	1990	0.004	9986461	39945.844
Lil Nas X	Pop	2010	0.0125	3238020	40475.25
Pearl Jam	Rock	1990	0.004	10284436	41137.744
Radiohead	Rock	2000	0.004	11354525	45418.1
Lana Del Rey	Pop	2000	0.0125	3852207	48152.5875
Lenny Kravitz	Rock	1990	0.00735	6991743	51389.31105
Black Sabbath	Metal	1970	0.00735	7720592	56746.3512
Aesop Rock	Hip Hop	2000	0.0125	4910439	61380.4875
David Bowie	Rock	1970	0.004	15670005	62680.02
Weezer	Rock	2000	0.00735	8984722	66037.7067
Green Day	Rock	2000	0.004	16723758	66895.032
Billie Eilish	Pop	2010	0.0125	5560460	69505.75
The Rolling Stones	Rock	1970	0.004	19725769	78903.076
Panic! At The Disco	Pop	2000	0.0125	8369275	104615.9375
Led Zepplin	Rock	1970	0.00735	14647824	107661.5064
Aerosmith	Rock	1980	0.00735	14890938	109448.3943
Metallica	Metal	1990	0.00735	15658397	115089.218
The Weekend	Hip Hop	2010	0.0125	9826577	122832.2125
Eric Clapton	Rock	1970	0.0125	10916069	136450.8625
Stevie Wonder	R&B	1970	0.004	40299356	161197.424
The Beatles	Rock	1970	0.00735	23300412	171258.0282
Nirvana	rock	1990	0.0125	16005398	200067.475
Marvin Gaye	R&B	1960	0.0125	21322650	266533.125
Queen	Rock	1970	0.0125	41917685	523971.0625

**Figure 2: Artists and the revenue generated from music streaming (Rate\*Streams)**

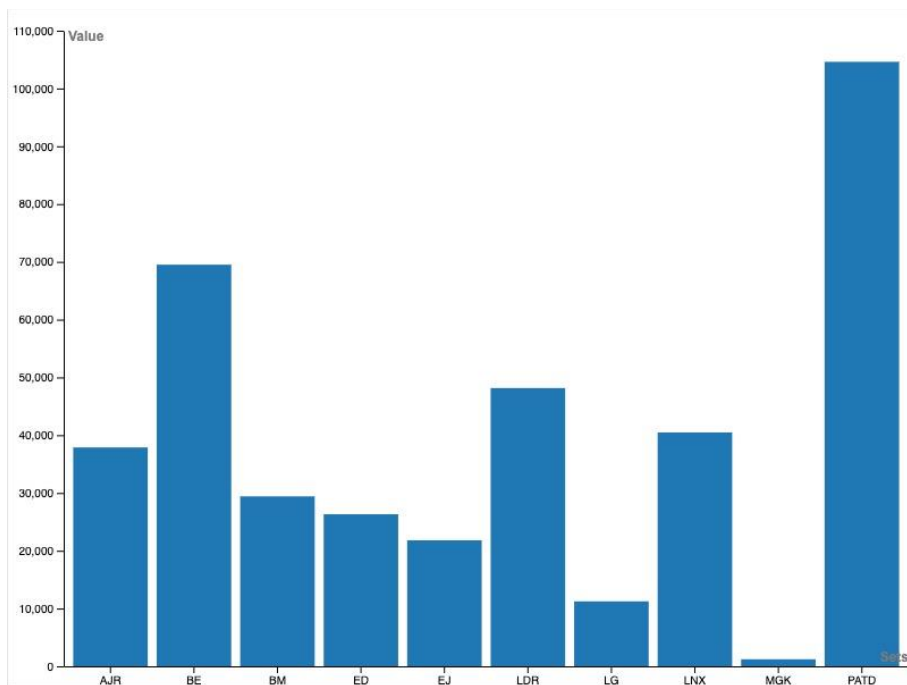
By combining the JSON and CSV datasets from GitHub, I have presented the data in a tabular format as seen in Figure 2. The revenue from streaming can be calculated by multiplying Rate by Streams. The artist with the highest revenue from streams is Queen (Genre: Rock; Decade: 1970) and the lowest revenue from streams is Machine Gun Kelly (Genre: Pop; Decade:). The findings will be further evaluated and analyzed in the next section.

## Data Processing and Evidence



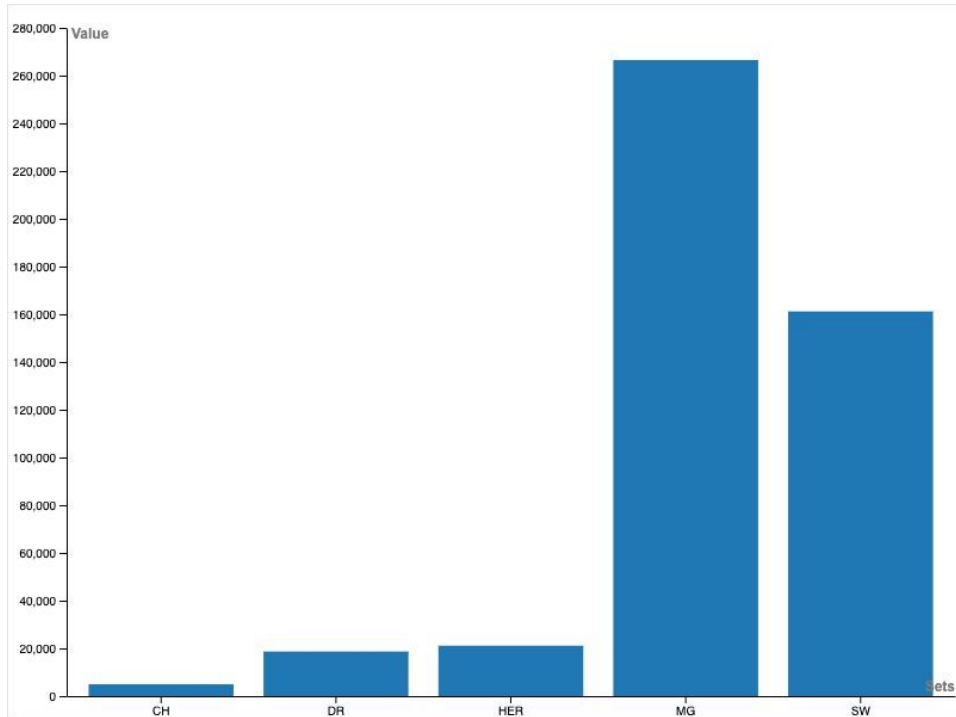
**Figure 3(a): Rock Artists' Revenue from Music Streaming**

From Figure 3(a), we can see that the Rock artist with the greatest revenue is Queen, who is a Rock artist from the 1970 decade. Their revenue from music streaming is that of \$523971.0625.



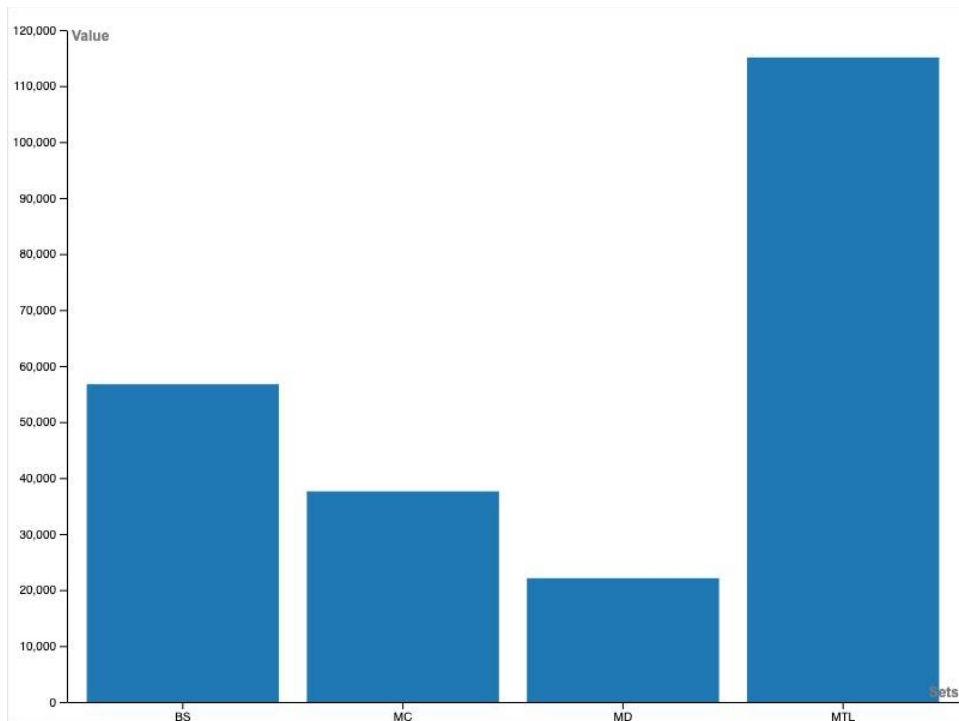
**Figure 3(b): Pop Artists' Revenue from Music Streaming**

From Figure 3(b), we can see that the Pop artist with the greatest revenue is Panic! At the Disco, who is an artist from the 2000 decade. His revenue from music streaming is that of \$104615.9375.



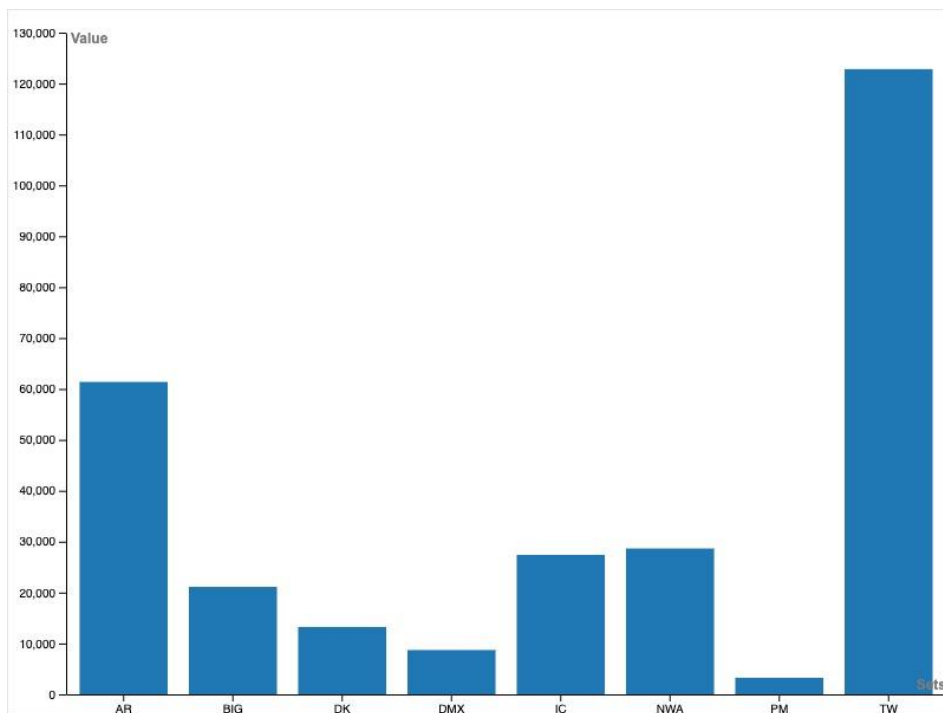
**Figure 3(c): R&B Artists' Revenue from Music Streaming**

From Figure 3(c), we can see that the R&B artist with the greatest revenue is Marvin Gaye, who is an artist from the 1960 decade. His revenue from music streaming is that of \$266533.125.



**Figure 3(d): Metal Artists' Revenue from Music Streaming**

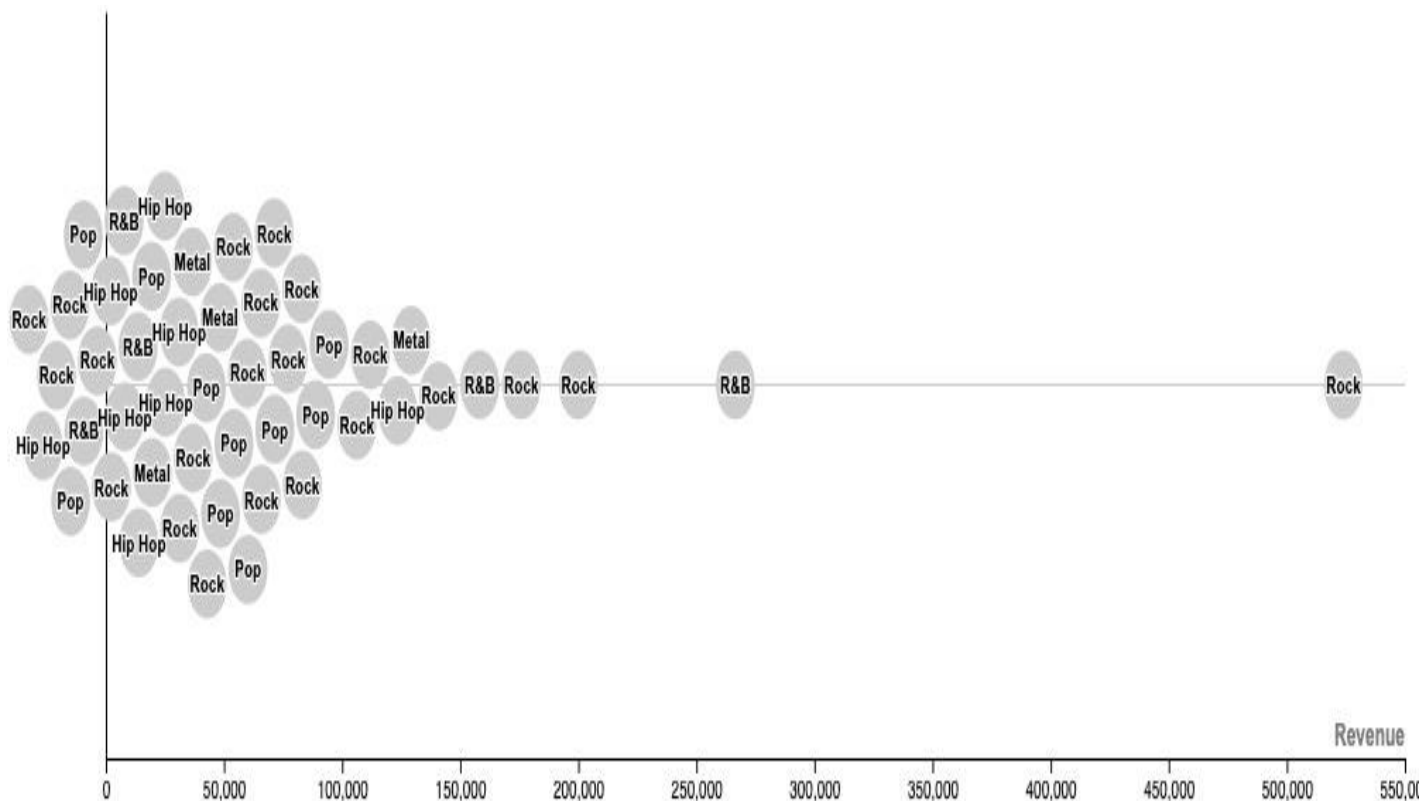
From Figure 3(d), we can see that the Metal artist with the greatest revenue is Metallica, who is an artist from the 1990 decade. Their revenue from music streaming is that of \$115089.218.



**Figure 3(e): Hip Hop Artists' Revenue from Music Streaming**

From Figure 3(e), we can see that the Hip Hop artist with the greatest revenue is The Weekend, who is an artist from the 2010 decade. His revenue from music streaming is that of \$122832.2125.

Queen, the Rock artist with the greatest revenue from music streaming has the total overall revenue in comparison to artists from all the other genres music. There is a sharp difference when comparing Queen's overall revenue of \$523971.0625 with that of all the other greatest revenue generating artists from the other genres of music.

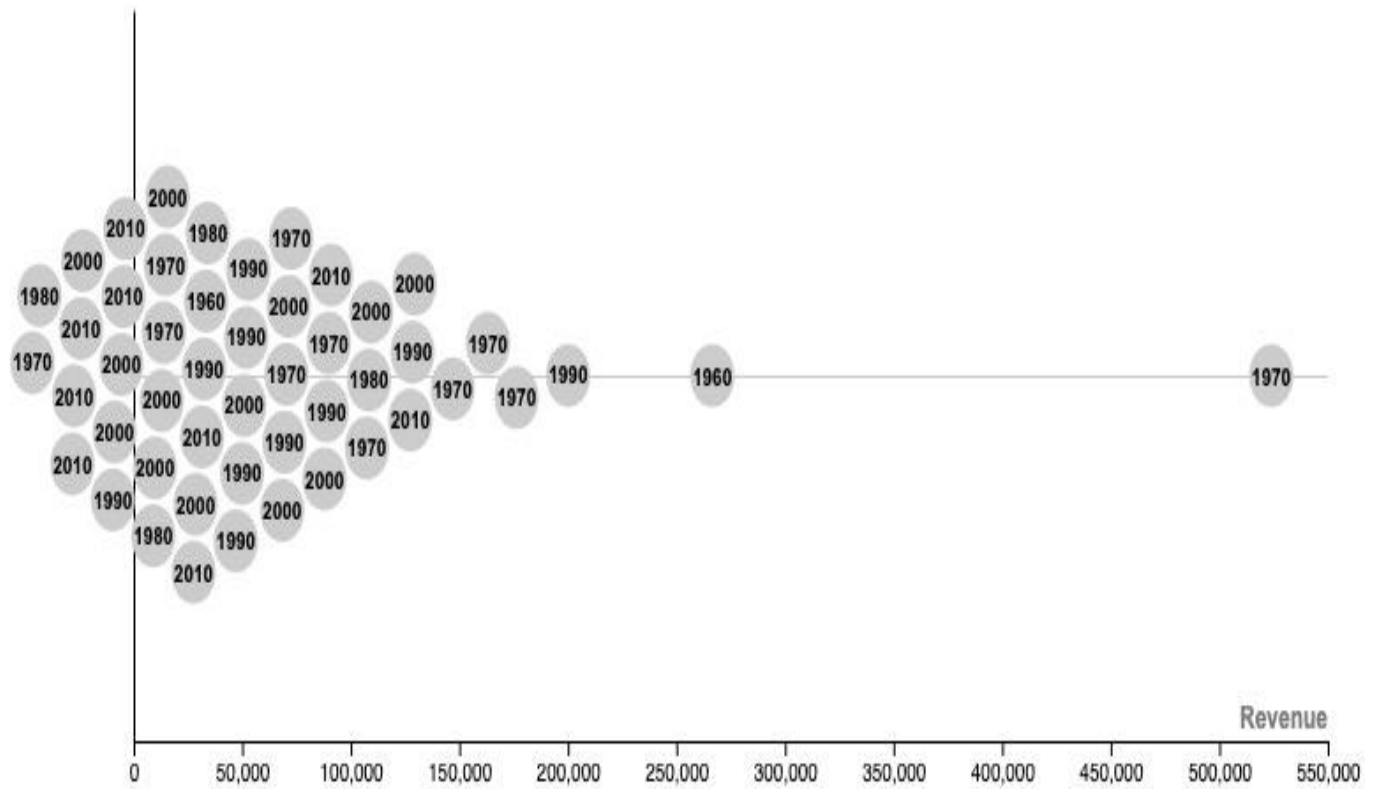


**Figure 4: Plotting Genre against Revenue**

There is a greater proportion of artists from the Rock genre of music with a revenue greater than \$150,000 as seen from Figure 4.

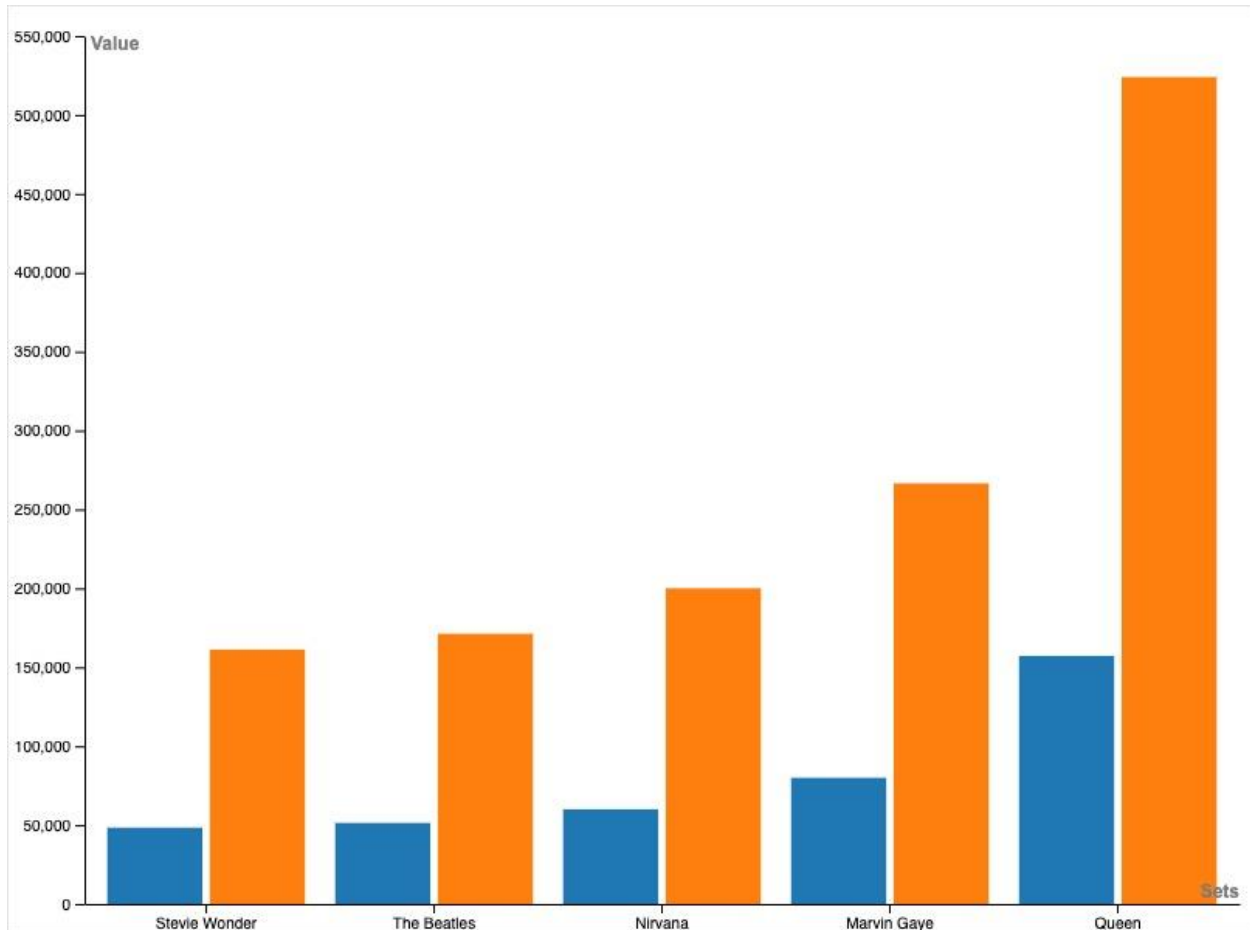
According to a recent article by The New York Times, it was said that the genre of music matters and it had been recorded that Rock artists are generating more revenue from music streaming than Hip-hop and R&B artists largely due to the scale of audience for their music. This is further supported by Figure 4, where Rock artists can be seen to have a higher proportion of greatest revenues when compared to all the other genres of music.





**Figure 5: Plotting Decade against Revenue**

There is a greater proportion of artists from the 1970 decade with a revenue greater than \$150,000 which can be seen from Figure 5.



**Figure 6: Artists with the Top 5 ROI in ascending order. Blue bar represents revenue and the orange bar represents Return on Investments (ROI).**

Revenue and Return on Investments (ROI) look to be directly proportional to each other. The higher the revenue of the artist, the higher the ROI and this can be seen above in Figure 6. The height of both the orange and blue bar charts are increasing proportionally. The ROI for each artist is directly proportional to the rate at which revenue is increasing for each artist.

## Forecasted Recommendation

Artist	Genre	Decade	Rate	Streams	Revenue	Recording Cost (40% of revenue)	ROI
Stevie Wonder	R&B	1970	0.004	40299356	161197.424	40299.356	48359.2272
The Beatles	Rock	1970	0.00735	23300412	171258.0282	42814.50705	51377.40846

Nirvana	Rock	1990	0.0125	16005398	200067.475	50016.86875	60020.2425
Marvin Gaye	R&B	1960	0.0125	21322650	266533.125	66633.28125	79959.9375
Queen	Rock	1970	0.0125	41917685	523971.0625	130992.7656	157191.3188

*Figure 7: Artist, Genre and Decade with Top 5 Return on Investment (ROI)*

## Advertising

It would be best to advertise in the genre and decade of artist with a greater number of streams as this would translate into a higher revenue. A greater number of streams would mean that they have a larger scale of audience that are already familiar with the artist's name brand and might be fans of this artist as well. This would make them a good target audience for any advertising campaigns.

## Return on Investment

Return on investment (ROI) will depend on the amount invested by the investor. The investor will receive a percentage of money from the revenue after certain expenses such as recording costs are deducted. An important point to note would be that the greater the investment, the greater the ROI. In light of this, it will be logical to invest in the artists with a greater revenue to ensure a greater ROI.

In reality, the ROI would vary in different instances. However, since we are assuming that the amount of investment is to be the same, we can ensure a fair rate of return for the investor for the purpose of this assignment.

To ensure a fair speculation, I am assuming the recording cost to be 40% of the total revenue. I am also assuming the amount invested by the investor to be \$50,000 and that would translated to approximately 40% in return of investment.

This was the formula used to calculate the ROI:

$$\text{ROI} = (\text{Revenue} - \text{Recording Cost}) * 40\%$$

Looking at Figure 7, which shows the artists with the Top 5 ROI, it can be seen that the ROI for each artists is directly proportional to the revenue generated. The larger the revenue, the larger the ROI since we are assuming the recording cost and the amount invested to be the same for all artists.

**As such, it is my recommendation to invest as well as to advertise in the Rock genre from the 1970 decade.** The genre of Rock and the 1970 decade is predominant in the artists with the Top 5 ROI as seen in Figure 6. This is further supported by Figures 4 and 5 as seen above. Also,

it is important to note that the artist with the greatest revenue and in turn the greatest ROI is Queen, who is of the Rock genre and from the 1970 decade.