

6th Datathon

Proposed Lineup for Spotify Concert Held at Capital One Arena

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Team DataShells



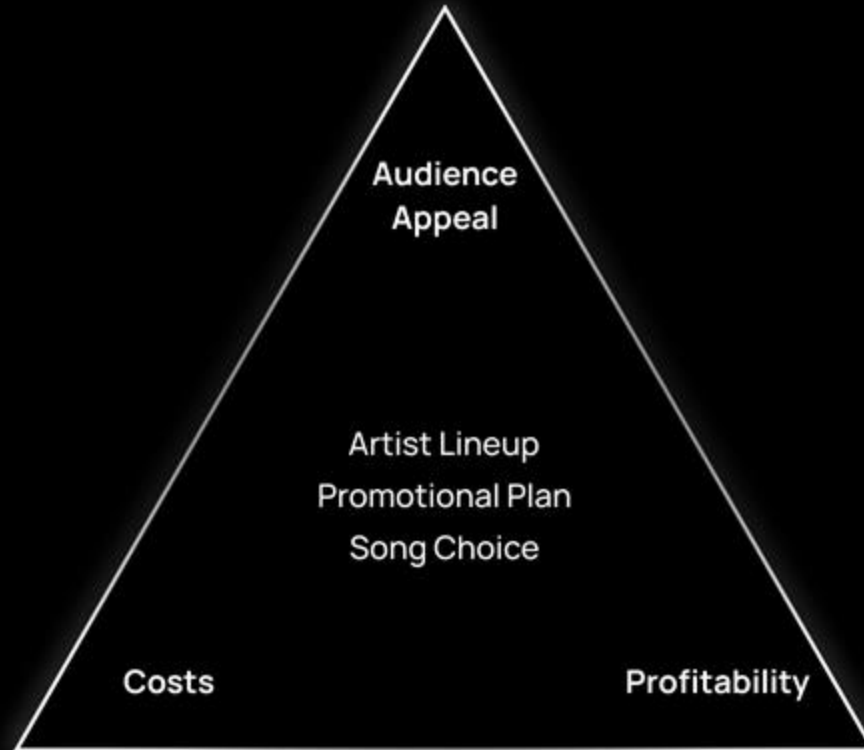
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Spotify's Concert at Capital One Arena

Spotify faces a trilemma in deciding the artist lineup, songs, and promotional plan for their next concert.





Concert Proposal to Spotify

From our analysis, we provide a summary of our concert proposal to Spotify to maximize profit.

Concert Name	Blossom & Beats - Spotify in DC
Date / Time	April 5 2026 (Sun) / 07:30-10:30 PM
Artist Lineup	Justin Bieber, Dua Lipa, Harry Styles, The Weeknd
Performing Songs	Details in following slides
Promotional Plan	Celebrating the Spring with friends
Audience Reach	105k (14,660 in-person + 91k Live Stream)
Profit	\$ 1.4 million, ROI: 30.9%



Recommended Artist Lineup

This lineup ensures a Revenue-Cost Balance and a diverse music style that resonates with Spotify's brand image.



Justin Bieber



Dua Lipa



Harry Styles



The Weeknd

- ✓ Cost control
- ✓ Consistent with Spotify branding
- ✓ Diversity & different musical styles
- ✓ Strong influence among youth



Recommended Artist Lineup — Reasons

We applied several metrics to calculate the ticket power of artists and simulate the profit they would bring in.

	Total Revenue Rank	Revenue per Show Rank	Ticket Price Rank	Top50 US count	Profit Est. from book price ₺
Justin Bieber	27	23	13	42	1,693,627
Paul McCartney	21	4	2	24	1,546,113
Kendrick Lamar	19	37	23	5	861,732
The Weeknd	10	3	9	9	747,942
Eagles	18	20	4	18	611,890
Harry Styles	5	17	18	1	607,579
Bad Bunny	1	6	5	77	462,306
The Killers	30	40	44	4	81,607
Dua Lipa	22	42	46	25	58,022
Billie Eilish	14	32	24	751	-378,026
Lady Gaga	15	11	10	4	-1,268,706
Kenny Chesney	12	16	29	2	-1,379,663
Morgan Wallen	20	25	16	630	-2,611,757

Metrics:

- Artists' ranks by their "Ticket Power":
 - Total Revenue
 - Revenue per Show
 - Price for a Ticket
- Count of their songs in US Top 50 songs
- Profit estimate for Capital One Arena (14k seats) with artist booking price

Please refer to Appendix A for more info on artist selection



Criteria for Choosing Songs

For song selection, each criteria of the song is weighted and summed as a single metric.

Popularity

- Daily ranking of each song
- The frequency of song's appearances on the Spotify chart

Concert-friendly

- High energy
- Good danceability
- Highly vocal, not much instrumental

Slow

- Mood is more mellow
- Slower tempo
- Emotional



Proposed Performing Songs

Each artist must include key songs per our criteria; others are our suggestion or up to their discretion.

Soft and Light for Opening Show



Harry Styles

"Golden" – Suitable for opening, Warm and Light

"Adore You" – Soft rhythms and naturally Connected to "Golden"

🔔★ "As It Was" – The Most Popular Song of Harry Styles

"Watermelon Sugar" – More upbeat vibe and Strong Groove

Required key songs - **Marked in Green**

Our suggestion - 🔔 The Most Popular Songs

★ Concert-friendly Songs

Main Performer

Performance-oriented artist



Dua Lipa

"Training Season" – After building up vibe with opening, Powerful song

★ "Illusion" – Powerful performance with dancers

"One kiss" – Little lowered tension, Grooving with audience

🔔★ "Dance The Night (Barbie)" – Popular and up-tempo

🔔★ "Houdini" – Minimal Sound and Cool Vibe



Proposed Performing Songs

Each artist must include key songs per our criteria; others are our suggestion or up to their discretion.

Dark and Sexy mid-session



The Weeknd

"Dancing In The Dark" – Song for vibe transition, Dark and Emotional

🔔 "Die For You" – Dark and Emotional Vibe

🔔 "Starboy" – Strong Beat

🔔★ "Blinding Lights" – Climax

"After Hours" – Sensitive and Fantasy Mood

Emotional and Warm Ending



Justin Bieber

"Favorite Girl" – Sweet Song for Start

🔔★ "Ghost" – Super-familiar to Fans

"Anyone" – Emotional

"Love Yourself" – Acoustic Song for Ending

Required key songs - *Marked in Green*

Our suggestion - 🔔 *The Most Popular Songs*

★ *Concert-friendly Songs*



Promotional Plan - Celebrating the Spring with friends

To promote the concert, Spotify should leverage digital, physical, and corporate collaborations to drive ticket sales and boost brand awareness.

Strategic Setting of Concert Date

April 5th, 2026 (Sun)

National Cherry Blossom Festival

Pedalpalooza Festival

Historical Concert dates

Please refer to Appendix B for more info on date selection

Brand Promotion

Local Business Co-Branded packages

Fans First program - true fans can buy tickets with friends on Spotify App

Global fans receive promotion for livestream tickets

Online Marketing

Spotify App: Push Notifications, Event page

Geo-Targeted Ads for local music fans

Social Media Vlogs and Teasers

Offline Marketing

Billboards around DC and Metro stations

Posters on Campus

College Partnership: Student Ambassadors



Ticket Pricing Strategy

We setup Tiers for In-person Tickets and combine multiple source of revenue to maximize profit.

Ticket Tier	Ticket Desc.	# of Seats	Price (avg)	Avg Revenue	Revenue Ratio
Tier 5	400 Level	8,100	\$124	\$1,004,400	64%
Tier 4	200 Level	1,800	\$185	\$332,568	
Tier 3	100 Level	3,200	\$290	\$928,234	
Tier 2	Floor Level - B	900	\$682	\$613,505	
Tier 1	Floor Level - A	630	\$1,111	\$700,009	
Tier 0	VIP - Special Exp	30	\$9,633	\$289,004	
Livestream Ticket		91,242	\$15	\$1,368,630	23%
Merch				\$797,138	13%
Total		14,660	\$12,025	\$6,033,487	

0.02 % of IG followers

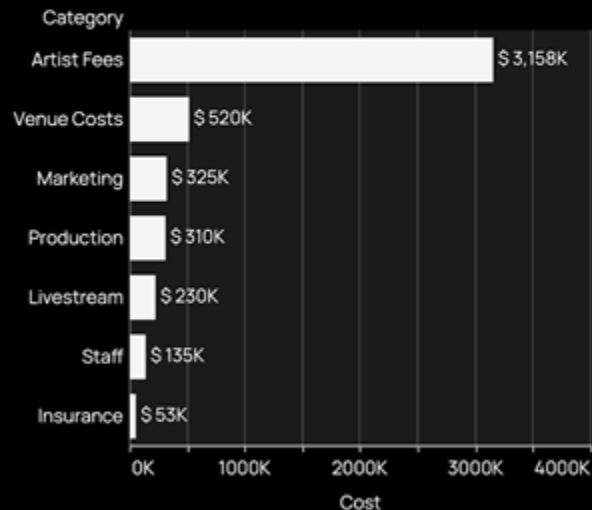
Please refer to Appendix E for more info on revenue.



4.6M Estimated Cost; 6M Projected Revenue

A comparison of our cost and revenue in categories. Detailed breakdown is in Appendix D and E.

Distribution of Cost



Please refer to Appendix D
for detailed breakdown on cost

Distribution of Revenue

Merch

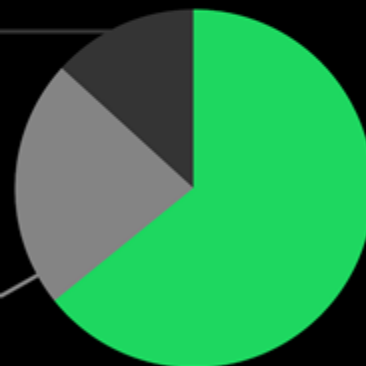
Revenue: 797K
13%

- 15% cut from merch sales at concert

Live Stream Tickets

Revenue: 1,369K
23%

- 0.02% of IG followers
- \$15/ticket x 91K viewers



In-person Tickets

Revenue: 3,868K
64%

- 5 seating tiers (\$125~9,600)
- Estimated 14,660 attendees

Please refer to Appendix E for
more info on revenue..



1.4M Profit

Profit of holding the concert "Blossom & Beats - Spotify in DC" is 1.4 Million, and ROI 30.9%





Blossom & Beats - Spotify in DC

Launching Apr 5, 2026; 3-Hour Show. Expected ROI of 30.9% and Profit reaching 1.4 Million. A seasonal celebration to reach hundreds of thousands fans and enhance brand awareness.

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Date/Time	April 5 2026 (Sun) / 07:30-10:30 PM
Artist Lineup	Justin Bieber, Dua Lipa, Harry Styles, The Weeknd
Promotional Plan	Celebrating the Spring with friends
Audience Reach	105k (14,660 in-person + 91k Live Stream)

Profit

1.4
million

"By combining multi-channel promotion, tiered pricing strategy, and diversified revenue streams, we aim to capture a significant share of the projected \$1.4M profit."

ROI

30.9
%

"The event generates \$6M in revenue with \$5M in costs, resulting in an ROI of 30.9%."



Appendix



Appendix A

Detailed description for metrics regarding artist selection.

	Total Revenue Rank	Revenue per Show Rank	Ticket Price Rank	Top50 US count	Profit Est. from book price
Justin Bieber	27	23	13	42	1,693,627
Paul McCartney	21	4	2	24	1,546,113
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Total Revenue Rank:

the rank of artist's total revenue across all shows - Total ticket power.

Revenue per Show Rank:

the rank of artist's total revenue divided all shows.

Ticket Price Rank:

the rank of ticket prices audience pay - how much people are willing to pay.

Top50 US count:

number of times the artist's song appear in the Top50 songs in US billboard.

Profit Est. from book price:

estimate profit with number of Capital One arena's seats subtract the booking price of the artist



Appendix B

Proposed data to hold concert "Blossom & Beats - Spotify in DC" in 2026

- Through Strategic Setting of Concert Date and by referencing concert dates from 2020–2025 at the DC Capital Arena, three potential concert time slots are proposed. A lower rank number indicates a higher recommendation.

Rank	Date	Pros	Cons
1	4/5/2026 – 4/15/2026	<ul style="list-style-type: none">- National Cherry Blossom Festival is one of the most significant cultural events in D.C. and attracts huge crowds of both locals and tourists.- Pedalpalooza (April 5) adds to the celebratory atmosphere with music, art, and fireworks, creating an energetic vibe in the city.- From 2020~2025, capital area held concerts during these time.	<ul style="list-style-type: none">- The spring season in D.C. is particularly vibrant, and people are in the mood for outdoor and cultural events.
2	9/18/2026 – 9/28/2026	<ul style="list-style-type: none">- Fiesta DC (Sept 28-29): Celebrates Latino culture with music and food, attracting a diverse crowd.- H Street Festival: Live performances and a local, energetic crowd.- Timing: Great window for live music, bridging summer to fall.	<ul style="list-style-type: none">- The festival during these time are not held continuously compared to Blossom festival.
3	12/6/2026 – 12/13/2026	<ul style="list-style-type: none">- Holiday Boat Parade & Party at The Wharf and Heurich House Museum Christmas Market create a festive, seasonal vibe, attracting families and tourists during the holidays.- The Christmas season can add a lot of magic to the event	<ul style="list-style-type: none">- People more focused on Christmas related activities rather than attending a concert.



Appendix C

Detailed description for metrics regarding songs selection.

Concert-friendly songs

```
df_concert_friendly = filtered_df[
    (filtered_df['popularity'] > 80) &
    (filtered_df['energy'] > 0.7) &
    (filtered_df['danceability'] > 0.5) &
    (filtered_df['loudness'] > -6) &
    (filtered_df['instrumentalness'] < 0.3)]
```

Sentimental songs

```
df_slow = filtered_df[
    (filtered_df['energy'] < 0.5) &
    (filtered_df['tempo'] < 90) &
    (filtered_df['valence'] >= 0.2) &
    (filtered_df['valence'] <= 0.5) &
    (filtered_df['acousticness'] > 0.2) &
    (filtered_df['instrumentalness'] < 0.3)]
```



Appendix C

Detailed description for metrics regarding songs selection.

Popular songs

```
def func_drunkweight(df):  
    rank_boundary = df['daily_rank'] // 10  
  
    conditions = [  
        rank_boundary == 0,  
        rank_boundary == 1,  
        rank_boundary == 2,  
        rank_boundary == 3,  
        rank_boundary == 4  
    ]  
    choices = [2, 1.75, 1.5, 1.25, 1.00]  
    df['drunk_weight'] = np.select(conditions,  
                                   choices,  
                                   default=1)  
  
    return df.head()
```

```
def func_srweight(df):  
    srd = df['snapshot_release_date']  
    qr = 365 / 4  
    conditions = [  
        srd <= 1,  
        (srd > 1) & (srd < 1 * qr),  
        (srd >= 1 * qr) & (srd < 2 * qr),  
        (srd >= 2 * qr) & (srd < 3 * qr),  
        (srd >= 3 * qr)  
    ]  
    choices = [1, 1.25, 1.5, 1.75, 2]  
    df['srweight'] = np.select(conditions,  
                               choices,  
                               default=2)  
  
    return df.head()
```



Appendix D

Detailed budget for estimating the total cost \$ 4.6 Million.

Category	Item	Min Cost	Max Cost	Avg Cost	Notes
1. Venue-Related	Arena Rental (Jan, Weekday, 3 hrs)	\$150,000	\$200,000	\$175,000	Lower demand, off-peak pricing
	Arena Rental (July, Weekend, 6 hrs)	\$200,000	\$350,000	\$275,000	Peak season + high-demand weekend slot
	Venue Staff (ushers, security, cleaning)	\$50,000	\$90,000	\$70,000	Depending on event duration
	Ticketing System Fees				May be handled via third party
2. Staffing	Event Production Staff	\$50,000	\$100,000	\$75,000	Includes stage managers, logistics, runners
	Security (private, backstage)	\$30,000	\$60,000	\$45,000	Based on artist profile and crowd size
	Medical & EMT Services	\$10,000	\$20,000	\$15,000	Required for large-capacity events



Appendix D (continued)

Detailed budget for estimating the total cost \$ 4.6 Million.

Category	Item	Min Cost	Max Cost	Avg Cost	Notes
3. Equipment & Production	Stage Setup & Design	\$100,000	\$250,000	\$175,000	Varies by complexity (LED walls, pyrotechnics)
	Lighting & Sound Equipment	\$80,000	\$150,000	\$115,000	High-quality concert-grade systems
	Power & Backup Generators	\$10,000	\$30,000	\$20,000	Necessary for continuous power
4. Marketing & Promotion	Digital & Social Media Ads	\$100,000	\$300,000	\$200,000	Instagram, YouTube, TikTok, Meta, Spotify banners
	Influencer & PR Partnerships	\$30,000	\$70,000	\$50,000	For reaching fanbases organically
	Outdoor Ads (billboards, transit)	\$50,000	\$100,000	\$75,000	Optional but impactful for regional draw
5. Insurance & Licensing	General Liability Insurance	\$20,000	\$50,000	\$35,000	Required for venues of this size



Appendix D (continued)

Detailed budget for estimating the total cost \$ 4.6 Million.

Category	Item	Min Cost	Max Cost	Avg Cost	Notes
6. Artist Related	Justin Bieber	\$55,500	\$80,475	\$67,988	Lower booking cost
	Dua Lipa	\$750,000	\$1,087,500	\$918,750	Diversity in artist gender
	Harry Styles	\$825,000	\$1,196,250	\$1,010,625	High profit estimate
	The Weekend	\$915,000	\$1,326,750	\$1,120,875	High profit estimate
	Hospitality & Backstage	\$20,000	\$60,000	\$40,000	
7. Recording & Live Streaming	Livestream Setup (multicam)	\$80,000	\$150,000	\$115,000	For online ticket sales and distribution
	Video Production Crew	\$50,000	\$100,000	\$75,000	Capture footage for future use



Appendix D (continued)

Detailed budget for estimating the total cost \$ 4.6 Million.

Category	Item	Min Cost	Max Cost	Avg Cost	Notes
8. Merchandise	Booth Setup, Staffing	\$10,000	\$30,000	\$20,000	Spotify organize for merch revenue
	Branded Giveaways (optional)	\$20,000	\$50,000	\$35,000	Limited-edition Spotify merch
Total		\$6,735,500	\$9,660,975	\$4,610,738	Estimated Cost: \$4.6 M

Total Cost estimation: \$ 4.6 Million



Appendix E

Detailed calculation for estimating the total revenue, including Livestream Tickets and Merch.

Livestream Ticket \$15	IG Fans	0.1% IG fans	Revenue
Justin Bieber	294000000	52,920	
Dua Lipa	87000000	15,660	
Harry Styles	48000000	8,640	
The Weekend	77900000	14,022	
Total (price \$15)		91,242	\$1,368,630

We estimate that 0.02% of the artist's Instagram followers will purchase a Livestream Ticket (\$15), resulting in revenue \$1.3 million.

We didn't use monthly listeners from Spotify because they count user that listen to just one song.

Merch	Price	Revenue
Justin Bieber	\$67.5	\$247,387.5
Dua Lipa	\$77.5	\$284,037.5
Harry Styles	\$47.5	\$174,087.5
The Weekend	\$25	\$91,625
Total		\$797,138

We estimate that audience with in-person tickets would buy merch from concert. The price for their merch is from their website.

This generates about \$0.8 million.



Thank You