Introduction

In the first part, this project focuses on an in-depth analysis of British Airway service quality. By examining customer reviews across various categories such as seat comfort, traveller types, and aircraft models, this project aims to uncover key insights into passenger experiences and preferences. In this part we have used Microsoft Excel and Sas Enterprise Miner to get the results.

The study also extends to a sentimental analysis using SaS Enterprise Miner of popular film genres and their associated terms, providing a unique perspective on storytelling elements across different categories of cinema. Through this comprehensive approach, we seek to identify trends, correlations, and areas for improvement in both the airline industry and film classification.

Part A

Task 1

Average seat type review based on seat comfort and type of traveller.

- Negative Reviews

  o   All Types of Travellers

In all types of travellers' category first class has received the highest negative rating of 2.69, which is concerning for British Airways because it should offer the best seat comfort as it is a premium seat type. This suggests a major misalignment between passenger expectations and actual experience in First Class.

o Business Travellers
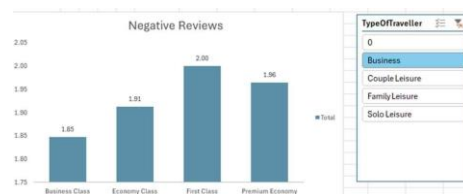
This suggests that business travellers have higher expectations for first classes, which are not being met. To improve their services the airline should focus on improving business and first-class experiences to better satisfy business travellers. Areas to address might include seat comfort, workspace, and personalized service.

  o   Couple Leisure

Negative Reviews (chart)

3.50
3.00 — 2.88
2.50 — 2.23
2.00 — 1.86 — 2.07
1.50
1.00
0.50
0.00
Business Class | Economy Class | First Class | Premium Economy
■ Total

TypeOfTraveller
0
Business
Couple Leisure
Family Leisure
Solo Leisure

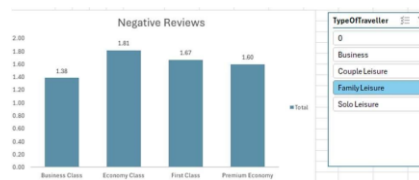Couples on leisure trips seem most dissatisfied with First classes. This could indicate that the experience does not match their expectations or provide sufficient value for money. The airline might consider enhancing couple-oriented amenities in premium classes to improve satisfaction.

o   Family Leisure

Negative Reviews (chart)

2.00
1.80 — 1.81
1.60 — 1.38 — 1.67 — 1.60
1.40
1.20
1.00
0.80
0.60
0.40
0.20
0.00
Business Class | Economy Class | First Class | Premium Economy
■ Total

TypeOfTraveller
0
Business
Couple Leisure
Family Leisure
Solo Leisure

Families appear most dissatisfied with economy class; it could be due to limited space and amenities for children. Furthermore, the relatively high dissatisfaction with first class could suggest that family-friendly features are lacking in this premium option. The airline should consider family-oriented improvements in economy and first class.

o   Solo Leisure

Negative Reviews (chart)

3.50
3.00 — 3.17
2.50 — 2.31
2.00 — 1.75 — 1.79
1.50
1.00
0.50
0.00
Business Class | Economy Class | First Class | Premium Economy
■ Total

TypeOfTraveller
0
Business
Couple Leisure
Family Leisure
Solo Leisure

Solo leisure travellers show highest dissatisfaction with Premium Economy and First Class. This could indicate that these classes don't offer enough value or unique experiences for solo travellers. The airline might consider tailoring some premium class offerings to better suit solo travellers' needs.

Implications for Service Quality:

a) First Class Crisis: The consistently high negative ratings for First Class across all traveller types indicate a serious problem with seat comfort in this premium category.

b) Economy Class Strength: The relatively low negative ratings for Economy Class suggest that it's meeting or exceeding expectations for seat comfort.

c) Business Class Inconsistency: The varied ratings across traveller types for Business Class indicate that it's not consistently meeting the needs of its target audience.

d) Premium Economy Opportunity: With generally middle-range ratings, there's an opportunity to differentiate Premium Economy more clearly from Economy and Business Class.
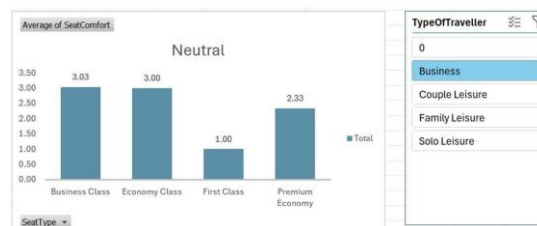
- Neutral Review

o   All Type of Travellers
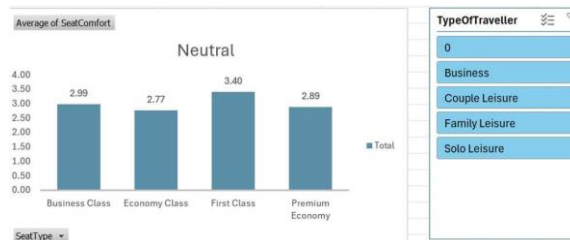
The overall trend shows a correlation between class and comfort, with First Class rating highest. However, the differences are not as pronounced.

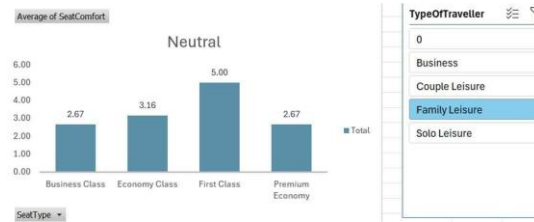o   Business Travelers

Business Class and Economy Class are rated almost equally, while First Class performs poorly. This suggests a misalignment between expectations and experience for business travellers in premium classes.
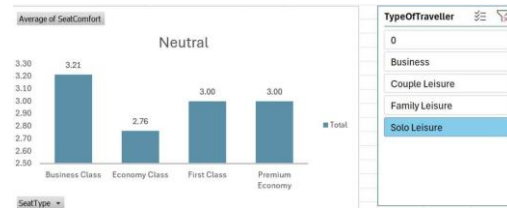
o   Couple Leisure

Couples seem most satisfied with First Class and Premium Economy, indicating these classes may be better tailored to leisure travellers.

o   Family Leisure

Families rate First Class significantly higher than other classes, suggesting it may offer features particularly valued by family travellers.

   o   Solo Leisure

Solo travellers rate Business Class highest, with First Class and Premium Economy tied. This suggests Business Class may offer features particularly appreciated by solo travellers in the neutral reviews category.

Implications for Service Quality:

a)   First Class Inconsistency: The wide variation in First Class ratings across traveller types indicates inconsistent service quality or misaligned expectations.

b)   Business Class Strength for Solo Travelers: Business Class performs well for solo leisure travellers, suggesting an opportunity to target this demographic more effectively.

c)   Premium Economy Positioning: Premium Economy shows consistent ratings across most traveller types, suggesting it's meeting expectations but not exceeding them.

d)   Economy Class Variation: Economy Class ratings vary across traveller types, performing better for business travellers than for couples.

e)   Family-Friendly First Class: The high rating from family leisure travellers for First Class suggests an opportunity to market luxury family travel.
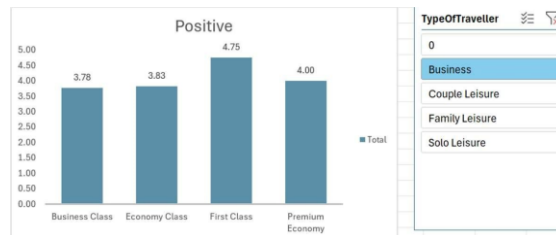
- <u>Positive Reviews</u>

   o   All Type of Travellers

The overall trend in the positive review category shows First Class receiving the highest positive ratings, followed closely by Premium Economy. Economy Class slightly outperforms Business Class, which is unexpected.

o   Business Travellers

Business travellers' rate First Class significantly higher than other classes. Surprisingly, Business Class receives the lowest rating, though differences are small among the other three classes.

o Couple Leisure
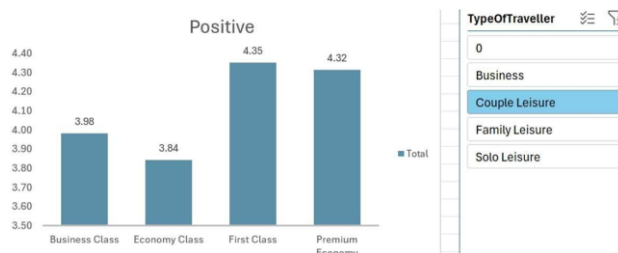
Couples seem most satisfied with First Class and Premium Economy, with only a small difference between these two classes. Business Class outperforms Economy Class for this group.

o   Family Leisure
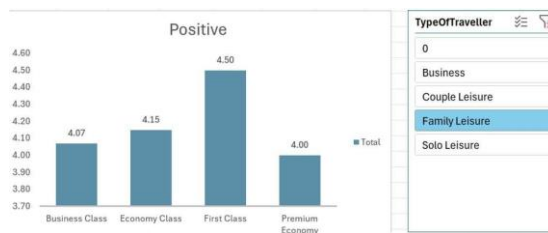
Families rate First Class highest, followed by Economy Class. Remarkably, Business Class outperforms Premium Economy for this group, though the differences are small.

o Solo Leisure

Solo travellers give high ratings across all classes, with First Class leading significantly. Premium Economy slightly outperforms Business Class for this group.

Implications for Service Quality:

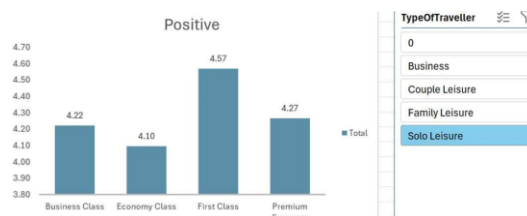a) First Class Consistency: First Class consistently receives the highest ratings across all traveller types. This indicates quality service delivery in First Class and is successfully meeting of diverse traveller expectations

b) Premium Economy Success: Premium Economy performs well across all traveller types, often coming in second after First Class. This suggests that there is a good value proposition for the price point along with that effective differentiation from Economy Class.

c) Business Class Variability: Business Class performance varies across traveller types, performing better for leisure travellers than for business travellers. This indicates potential misalignment with business traveller expectations and an unexpected appeal to leisure travellers.

d) Economy Class Competitiveness: Economy Class performs relatively well, sometimes outperforming Business Class. This suggests good management of expectations for Economy Class and there is potential for upselling to Premium Economy.

Reviews of Type of

Aircrafts

o Airbus Vs Boeing
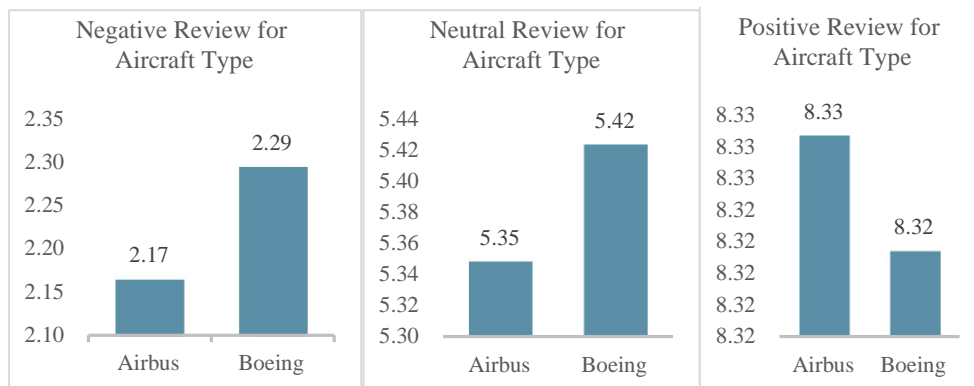
Key observations:

1. The differences between Airbus and Boeing are small across all categories.
2. Boeing tends to have slightly higher scores in negative and neutral categories, suggesting they may receive more criticism or lukewarm reviews.
3. Airbus has a marginal edge in positive reviews, but the difference is negligible i.e. 0.01.

4. The largest gap is in negative reviews, where Boeing scores 0.12 points higher than Airbus.

Type of Aircrafts VS Service Quality Indicators

Comparison between Airbus and Boeing aircrafts service quality in each review category with respect to the average service quality rating of those customers who have recommended the airline

o Positive Reviews
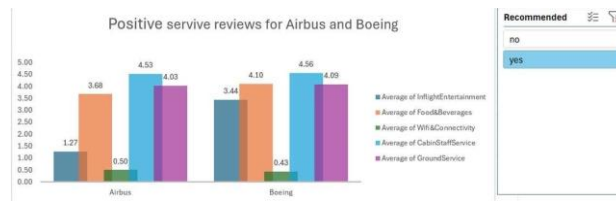
Positive reviews highlight BA's strengths and areas where the airline is meeting or exceeding customer expectations.

o Negative Reviews
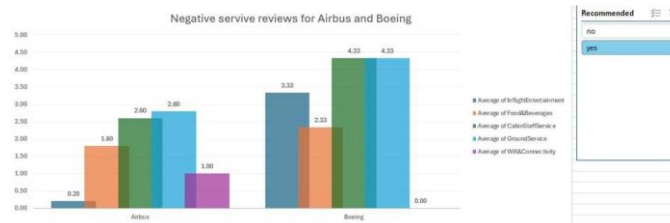
Negative reviews represent critical pain points in the customer experience that could significantly impact brand perception and loyalty.

o Neutral Reviews
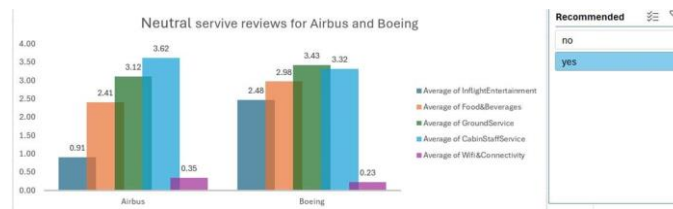
Neutral reviews indicate areas where service quality is adequate but not exceptional, representing opportunities for differentiation.

Impact of Aircraft Make and Model on Service Quality Ratings:

1. **Inflight Entertainment:**
   - Boeing significantly outperforms Airbus in positive (3.44 vs 1.27) and neutral (2.48 vs 0.91) reviews.
   - However, Boeing has higher negative ratings (3.33 vs 0.00)

Boeing aircraft likely have more advanced entertainment systems but may suffer from reliability issues or raised expectations.

2. **Food & Beverages:**
   - Boeing rates higher in positive (4.10 vs 3.68) and neutral (2.98 vs 2.41) reviews
   - Negative reviews are comparable (Boeing: 2.33, Airbus: 1.80)

Boeing aircraft may offer superior catering services or have better facilities for food preparation and service.

3. **Cabin Staff Service:**
   - Relatively consistent across both manufacturers'
   - Slightly higher positive ratings for Boeing (4.56 vs 4.53)
   - Higher negative ratings for Boeing (4.33 vs 2.80)

Cabin layout or design in Boeing aircraft might influence staff service delivery, leading to more polarized experiences.

4. **Ground Service:**
   - Similar positive ratings (Boeing: 4.09, Airbus: 4.03)
   - Boeing rates higher in neutral reviews (3.43 vs 3.12)
   - Boeing has significantly higher negative ratings (4.33 vs 2.60)

Ground service quality seems more variable for Boeing aircraft, possibly due to different handling requirements or passenger expectations.

5. **WiFi & Connectivity:**
   - Consistently low ratings across both manufacturers
   - Airbus slightly outperforms in positive (0.50 vs 0.43) and neutral (0.35 vs 0.23) reviews

Both aircraft types underperform in connectivity, with Airbus having a marginal edge.

Task 2

1. Top 5 Topics in each category and their correlation

o <u>**Negative Reviews**</u>

Category	Topic ID	Document Cutoff	Term Cutoff	Topic
Multiple	1	0.226	0.013	+business,business class,+class,+seat,+fly
Multiple	2	0.217	0.013	+bag,luggage,baggage,+wait,+airport
Multiple	3	0.224	0.013	economy,premium,premium economy,+seat,+fly
Multiple	4	0.204	0.014	+seat,+row,+fly,+screen,+old
Multiple	5	0.177	0.013	+attendant,+flight attendant,+minute,+high,available

1. Business class: "business,business class,+class,+seat,+fly"

2. Economy/premium economy: "economy,premium,premium economy,+seat,+fly"

3. Luggage handling: "bag,luggage,baggage,+wait,+airport"

4. Seat comfort: "seat,+row,+fly,+screen,+old"

5. Flight attendants: "attendant,+flight attendant,+minute,+high,available"

Correlation: These topics correlate strongly with key service attributes that often lead to negative reviews:
- Disappointment with premium classes
- Issues with luggage handling and airport experiences
- Uncomfortable or outdated seating
- Concerns about flight attendant service or availability

o <u>**Neutral Review**</u>

Category	Topic ID	Document Cutoff	Term Cutoff	Topic
Multiple	1	0.171	0.022	+announce,+late,+bark,departure lounge,delicious
Multiple	2	0.175	0.021	mediocre,+product,flair,deep fried potato,unimpressive
Multiple	3	0.173	0.023	crowded,delta,+nice,+smile,line
Multiple	4	0.159	0.021	club class,power,saw,total,+cover
Multiple	5	0.145	0.024	+cabin,+good,+airline,+much,first

1. Departure lounge: "announce,+late,+bark,departure lounge,delicious"

2. In-flight meals: "mediocre,+product,flat,deep fried potato,unimpressive"

3. Crowding: "crowded,delta,+nice,+smile,line"

4. Seating: "club class,power,saw,total,+cover"

5. Cabin experience: "cabin,+good,+airline,+much,first"

Correlation: These topics reflect a mix of positive and negative experiences, typical of neutral reviews:
- Varied experiences with departure lounges and announcements
- Mixed opinions on meals (some delicious, some mediocre)
- Acknowledgment of crowding issues but also nice staff

- Diverse seating experiences (club class, power outlets)
- Generally acceptable cabin experiences

o **Positive Reviews**

Category	Topic ID	Document Cutoff	Term Cutoff	Topic
Multiple		1	0.205	0.015 premium economy,premium,economy,business,excellent
Multiple		2	0.217	0.016 business,+class,+seat,business class,excellent
Multiple		3	0.188	0.016 economy,+seat,economy class,+class,+hour
Multiple		4	0.123	0.019 excellent,+seat,+hour,+cabin,+food
Multiple		5	0.115	0.017 premium,pre-reserve,+want,premium product,+seat

1. Premium economy: "premium economy,premium,economy b..."

2. Business class: "business,+class,+seat,business class..."

3. Economy class: "economy,+seat,economy class,+class..."

4. Excellent service: "excellent,+seat,+hour,+cabin,+food"

5. Premium services: "premium,pre-reserve,+want,premium pr..."

Correlation: These topics strongly correlate with positive service attributes:
- Satisfaction with premium economy offerings
- Positive experiences in business class
- Surprisingly good experiences in economy class
- Excellent overall service, including seating, cabin experience, and food
- Appreciation for premium services and pre-reservation options

2. Top Topics in all categories and their correlation

Category	Topic ID	Document Cutoff	Term Cutoff	Topic	Number of Terms
Multiple		1	0.116	0.021 +class,+business,business class,+lounge,+seat	276
Multiple		2	0.133	0.021 +cancel,+day,+hour,+customer,+luggage	327
Multiple		3	0.122	0.021 security,boarding,+lounge,+gate,+minute	283
Multiple		4	0.125	0.022 excellent,comfortable,+good,+crew,+cabin	299
Multiple		5	0.116	0.022 +airline,+leg,economy,budget,+haul	340

- <u>Business Class Experience</u>: "+class,+business,business class,+lounge,+seat"

  Correlation:

1. This topic appears prominently across categories, indicating its importance in overall customer experience.
2. Relates to key service attributes like seat comfort, lounge access, and premium cabin offerings.

- <u>Customer Service and Logistics</u>: "+cancel,+day,+hour,+customer,+luggage"

  Correlation:

1. Spans categories as it covers crucial touchpoints in the customer journey.
2. Relates to service attributes like customer support, flight scheduling, and baggage handling.
3. Can significantly impact reviews based on how well these aspects are managed.

- Airport Experience: "security,boarding,+lounge,+gate,+minute"

   Correlation:

1. Relevant across review categories as it affects the pre-flight experience.
2. Connects to service attributes like efficiency of boarding, security processes, and lounge quality.
3. Can set the tone for the overall flight experience, influencing final ratings.

- In-flight Experience: "excellent,comfortable,+good,+crew,+cabin"

   Correlation:

1. Appears to be more positively oriented but likely spans categories.
2. Directly relates to key service attributes like cabin comfort, crew service, and overall flight quality.
3. Central to the core flying experience and heavily influences customer satisfaction.
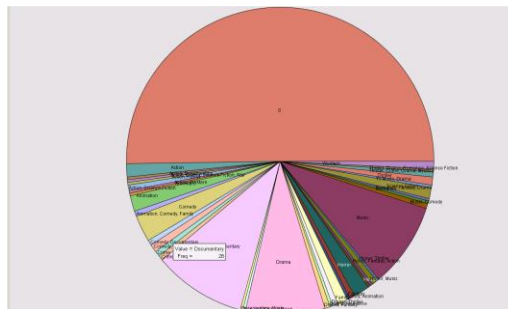
- Airline Characteristics: "+airline,+leg,economy,budget,+haul"

   Correlation:

1. Covers broader aspects of airline positioning and flight types.
2. Relates to service attributes like value for money, economy class offerings, and longhaul flight experiences.
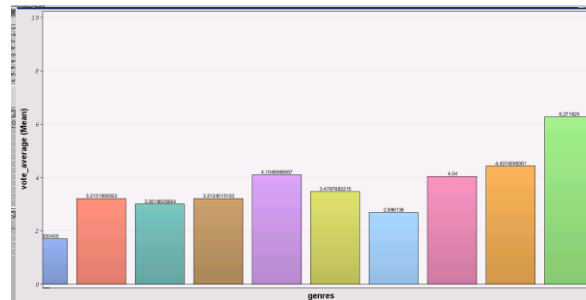3. Influences expectations and perceptions across different review categories.

Part B

1. **Most popular genre**

The most popular genres in the review dataset are Documentary with a frequency of 28 followed by Music (26) and Drama (24).

2. **Average Response Rate for each Genres**

The average review response rate for each genre is 6.27 for Drama+Comedy, followed by Comedy+Romance(4.43), Animation+Comedy (4.1), History+Documentary(4.04), and Comedy (3.21), etc.

3. **Most Used Terms for Each Genres**
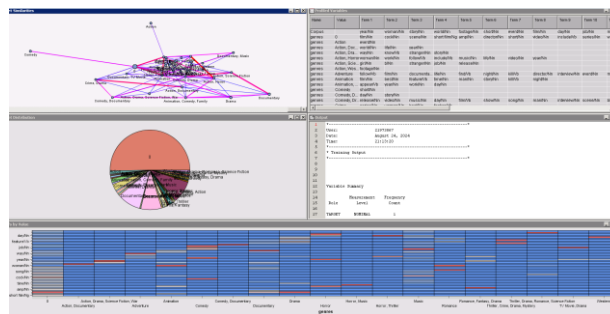
In Action-based genres such as Action, Action Documentary, Action Drama, Action Horror, Action Science Fiction these words are mostly used: event, world, life, way, know, stranger, story, woman, work, follow, include, music, video, year, girl, job, release, footage.

In Drama-related genres such as Drama, Action Drama, Comedy Drama, Crime Drama: man, year, way, know, stranger, story, day, people, world

In Documentary-related genres such as Documentary, Action Documentary, Documentary Biography, Documentary History: world, life, job, year, kill, night, heaven, love, woman

In Adventure and Animation: follow, film, documenta..., life, find, night, kill, director, interview, event, music, feature, best, time, man, story

In Comedy and Crime: short, day, story, series

4. **Correlation between the terms**

There is a connection/correlation between the terms for example the word "Life" appears in multiple genres i.e. Action, Action Documentary, Action Horror, suggesting that there is a common theme across different types of films.

Furthermore, "World" is used in Action, Action Documentary, and Crime Drama, possibly indicating a focus on global or expansive settings in these genres.

"Story" is common in Action Drama, Comedy Drama, and Crime Drama, highlighting the narrative focus in these genres.

5. Topmost Popular Topics
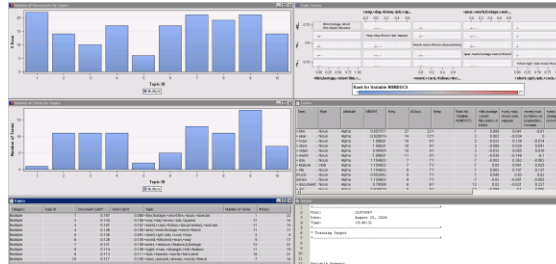
The most popular topics for each genre are:

Action-based Genre: event, card, follow, documentary, woman

Drama-related Genre: world, life, best, man, way

Documentary-related Genre: world, life, best, man, way

Adventure and Animation Genre: film, footage, short film, back, director

Comedy and Crime Genre: series, release, feature, footage

Romance Genre: story, people, feature, friend, sir, woman, friend, feature, group, hour

Crime Genre: kill, night, man, known, killer, stranger, night, world, feature, card

Music/Musical Genre: release, day, video, feature, music

Historical/Period Genre: year, job, girl, country, duty, man, year, town, plan

6. Whether and how the most popular topics share connections across genres

There is a connection across genres as there's significant thematic and conceptual overlap.

For instance, terms like "girl," "brother," and "man" emphasize the character-driven nature of stories across genres. Furthermore, "Love" and "thriller" in the same topic show how emotions can bridge seemingly disparate genres like Romance and Mystery.

Conclusion

This analysis offers actionable insights for British Airways to enhance customer satisfaction and differentiate its offerings. By addressing the shortcomings in First Class, refining Business Class offerings, and leveraging the strengths of Economy Class and Premium Economy, British Airways can improve its overall service quality and competitiveness. Additionally, the film industry can benefit from understanding the shared themes and storytelling elements across genres, enabling them to create more engaging and resonant content.