

**MIS362 – Social Media Analytics and Data
Driven Innovation T2, 2023
Assessment 2 – Social Media Analytics Report
(Individual Report)**

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I. Introduction:

The choice of Sony as the focal organization for this assignment stems from its notable position within the consumer electronics industry and a consistent commitment to innovation in audio products. Specifically, the WH-1000XM5, a flagship wireless noise-canceling headphone model, has been selected as the subject for analysis due to its innovation potential through the examination of social media analytics.

II. Organizational Background and Analysis:

Sony Corporation, a global conglomerate headquartered in Tokyo, Japan, boasts a storied history that dates back to its founding in 1946 (Beamish, 1999). With a strong commitment to innovation, Sony has continuously reshaped the landscape of consumer electronics, entertainment, and technology. Its diverse business portfolio spans various sectors, including consumer electronics, gaming, entertainment, music, and more.

Moreover, Sony's global presence is a critical factor in its organizational strategy. The company operates in numerous countries worldwide, which allows it to tap into diverse markets effectively. This global reach not only facilitates the distribution of its products but also positions Sony as a leading player in the international consumer electronics and entertainment industries.

1. Sony's Industry and Market:

Sony operates in the highly competitive consumer electronics industry, which is characterized by rapid technological advancements and evolving consumer preferences. Key competitors include industry giants like Apple, Samsung, LG, and Bose. The industry's dynamics demand constant innovation and responsiveness to changing market trends.

Sony's strategic approach involves creating products that blend advanced technology with user-centric design. Its commitment to innovation is evident in products such as high-resolution TVs, digital cameras, gaming consoles, and audio equipment (Hall, 2019). This innovation-oriented strategy enables Sony to maintain a strong presence in the consumer electronics sector.

Sony's diverse product portfolio also plays a significant role in its market strategy. By offering a wide range of products, from smartphones and laptops to audio devices and home entertainment systems, Sony can cater to a broad spectrum of consumer needs and preferences. This diversification mitigates risks associated with reliance on a single product category and ensures stability in its market position.

Furthermore, Sony's engagement in the entertainment industry, including Sony Pictures Entertainment and Sony Music, provides a unique synergy with its consumer electronics business. It allows the company to offer exclusive content and experiences to its customers, enhancing the value proposition of its products. This integration of hardware and content reinforces Sony's competitive edge.

2. WH-1000XM5:

Idea: The WH-1000XM5 embodies the concept of delivering an unparalleled audio experience while minimizing external disturbances. Its core idea revolves around utilizing cutting-edge noise-canceling technology to provide users with an immersive, high-fidelity sound environment. Sony's history of audio innovation is a driving force behind this product's development.

Business Value: WH-1000XM5 offers substantial business value by delivering an exceptional audio experience. It enables users to enjoy music, movies, or calls with pristine sound quality, regardless of their surroundings. The headphone's feature-rich design ensures comfort during extended use, making it an ideal choice for travelers, audiophiles, and professionals.

Features: WH-1000XM5 introduces a host of innovative features, including active noise-cancellation (anc) technology, effectively eliminating ambient noise (Quinn, 2022). Additionally, it is supported by Adaptive Sound Control, which adjusts noise-cancellation settings based on the user's activity and location. The Speak-to-Chat feature intelligently pauses playback when the user begins speaking and resumes when they stop. Additionally, the inclusion of the LDAC audio codec ensures high-resolution wireless audio streaming. These advanced features enhance user convenience and differentiate the product from competitors.

Target Market: According to Shastri (2021), The WH-1000XM5 caters to a diverse target market, including audiophiles seeking uncompromised audio quality, frequent travelers desiring noise-free environments, professionals requiring reliable audio during work, and consumers who prioritize style and comfort in their headphones. Its versatility makes it an attractive choice for a wide range of users.

Market Share: Sony's WH-1000XM series has consistently gained market share in the premium noise-canceling headphone segment. The series' reputation for innovation and the positive reception from users and critics alike have contributed to its robust market position.

III. Recommendations

Using data crawling techniques, interaction data of multiple users from two platforms Reddit and Youtube was gathered with the aim of analyzing and giving recommendations.

1. Stage 1: Ideation

During this stage, the collected data will undergo analysis to ascertain user opinions regarding the Sony WH-1000XM5 product. In order to gain insights, text data analysis techniques such as WordCloud, Bigram, Sentiment Analysis and Topic Modelling were applied.

a. General view

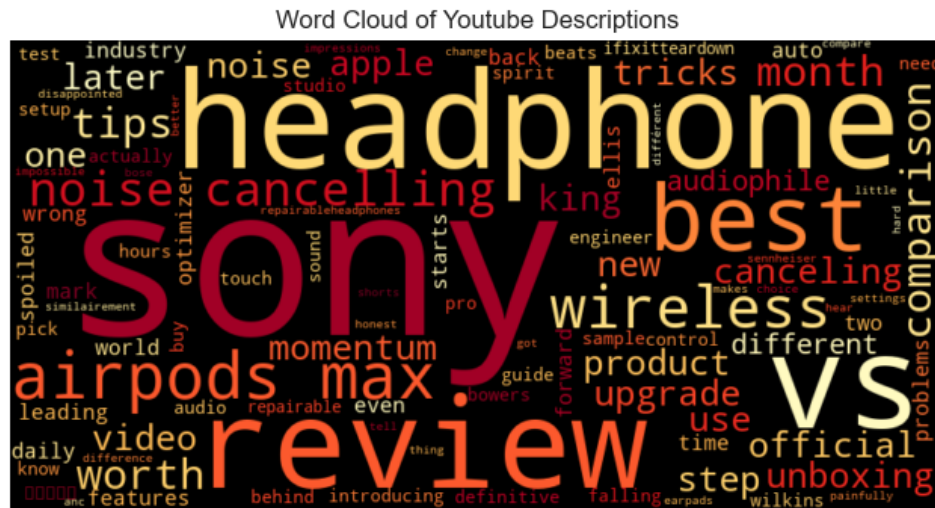


Figure 1: Word Cloud of Youtube Video Descriptions



Figure 2: Word Cloud of Youtube Comments

Prominent keywords:

review	best	wireless
cancelling	tricks	unboxing

With Figure 1 and Figure 2, we can get a preliminary understanding of the keywords in the descriptions of YouTube videos and the comments on those videos. The YouTube platform often contains content related to product reviews. Therefore, keywords in the comments tend to be quite positive, such as "better," "good," "thank," and so on. In the video descriptions, keywords reflect the types of content that YouTubers typically create for tech-related products, such as product reviews ("review," "audiophile," "noise cancelling"), product guides ("tips," "tricks"), and product comparisons ("VS," "different," "comparison").



Figure 3: Word Cloud of Reddit Comments



Figure 4: Word Cloud of Reddit Posts

Prominent keywords:

issue	earbud	unactivate end
gesture	volume lowered	end call

In contrast to YouTube, Figure 2 and Figure 3 indicate a somewhat negative sentiment on Reddit, where discussions tend to be more vibrant, especially regarding product-related issues. Although the overall sentiment about the product remains generally positive, some keywords immediately bring up product issues, such as "issue," "end call," "volume lowered," or "automatically unactivate."

b. Sentiment Analysis

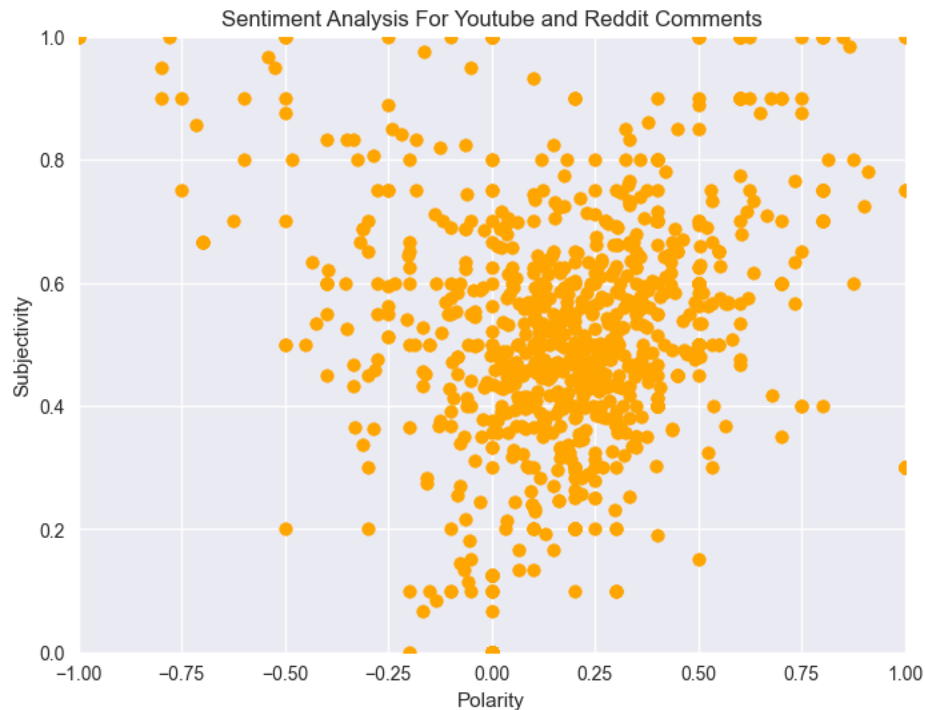


Figure 5: Sentiment Analysis result for Youtube and Reddit comments

To gather customer opinions, Sentiment Analysis techniques have been applied in this analysis. Data collected from both platforms have been combined to facilitate the analysis process.

Overall, while many customer reviews may not be highly objective, the level of satisfaction among users is relatively positive. From here, the data will be divided into two groups for analysis: positive reviews and negative reviews.

c. Postive reviews analysis



Figure 6: Wordcloud of Positive reviews from Reddit and Youtube

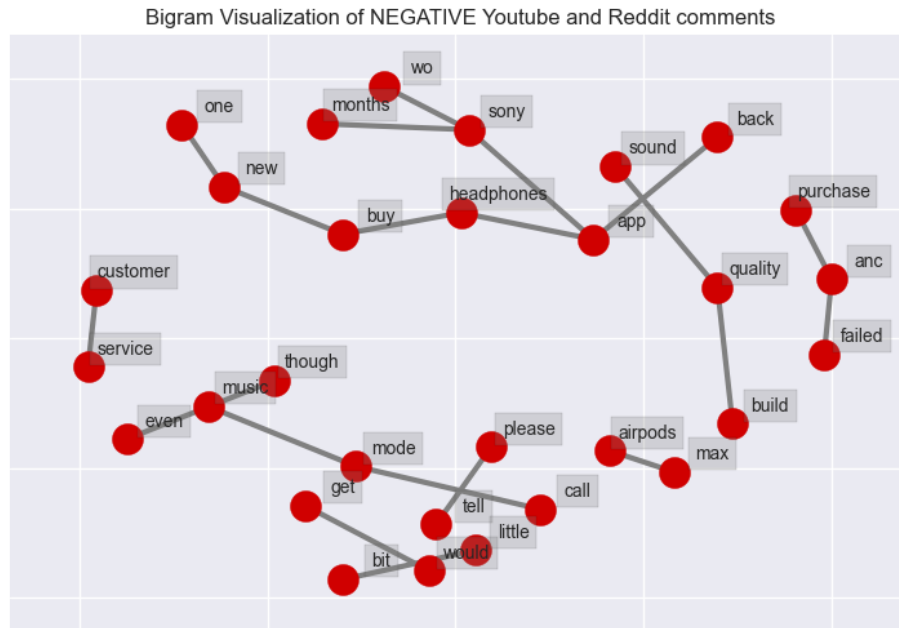


Figure 9: Bigram visualization of Negative reviews from Reddit and Youtube

In Figure 8, which examines negative comments, notable keywords are related to the headphone's usage time, such as "time" and "battery." Issues regarding call quality and operations are evident through keywords like "video" and "call." Remarkably, "ANC" appears again in negative reviews, this time accompanied by the word "failed" (see Figure 9).

2. Stage 2: R&D

Through the analyses above, combined with the content posted by prominent users like Marques Brownlee, Hardware Savvy (Figure 10), and xxwlc (Figure 11), we can draw the following conclusions about the Sony WH1000-XM5 product:

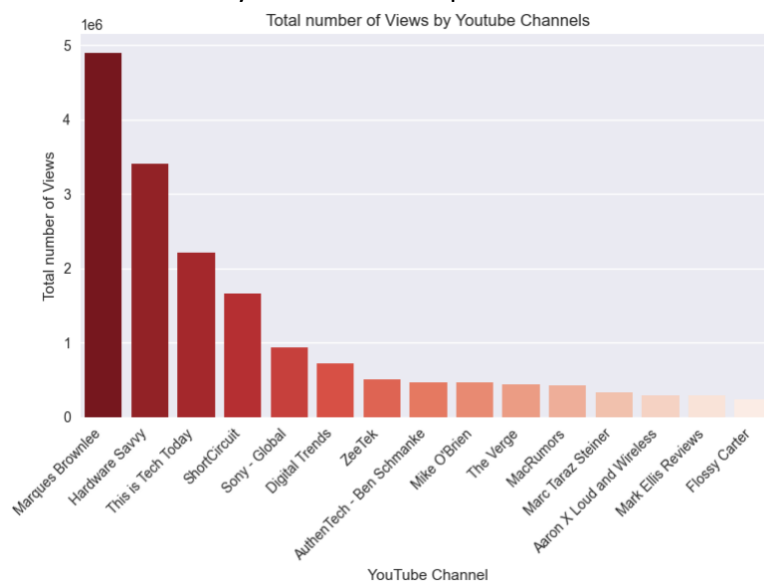


Figure 10: Total number of Views by Youtube channels

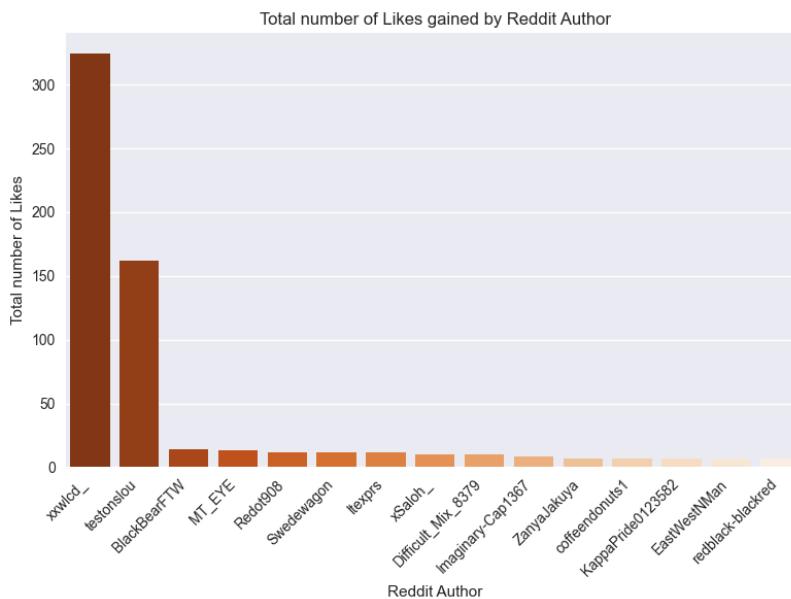


Figure 11: Total number of Views by Youtube channels

Advantages:

- Exceptional sound quality.
- Ergonomically designed foam ear tips enhance user comfort.
- Robust Active Noise Canceling (ANC) technology delivers a tranquil listening experience.

Limitations:

- Insufficient battery life, resulting in limited usage when the Active Noise Canceling feature is activated.
- Inconsistent performance of the Active Noise Canceling feature.
- Subpar call quality, including inadequate microphone audio capture.
- Inaccurate touch controls on the headphones, leading to unintended automatic volume adjustments and call terminations.

Hence, to enhance the next-generation product, it is imperative not only to preserve its strengths but also to rectify the identified weaknesses.

a. Innovation in Battery Management:

- Develop advanced battery technology to enhance the usage time when using the Active Noise Canceling (ANC) feature.
- Integrate intelligent power-saving modes to optimize battery usage in necessary situations.

b. Enhancing ANC Stability:

- Utilize improved sensors and algorithms to ensure the stability of the Active Noise Canceling (ANC) feature, effectively eliminating noise without causing disruptions to users.

c. Improving Call Quality and Microphone Audio:

- Implement advanced microphone and audio recording technology to enhance call quality, ensuring clear and noise-free audio capture.
- Incorporate noise reduction technology to eliminate wind and environmental noise during calls.

d. Optimizing Touch Controls:

- Utilize enhanced touch sensors to improve the accuracy of touch-based controls, preventing inaccuracies in volume adjustments and automatic call termination.
- Integrate customizable touch control options, allowing users to personalize their preferences.

3. Stage 3: Commercialization

After the R&D process and the development of a new prototype, it is crucial to identify suitable opinion leaders who can assist with testing, reviewing, and promoting the new product through paid content creation. Two platforms, YouTube and Twitter, appear to be the most suitable for finding these individuals.

For YouTube (see Figure 10), Marques Brownlee stands out as the ideal channel, with impressive achievements, including 17.4 million subscribers (see **Appendix 1**) and 4,898,209 views for his Sony WH-1000XM5 review video. The Hardware Savvy channel is also a prominent option with 1.26 million (see **Appendix 2**) subscribers.

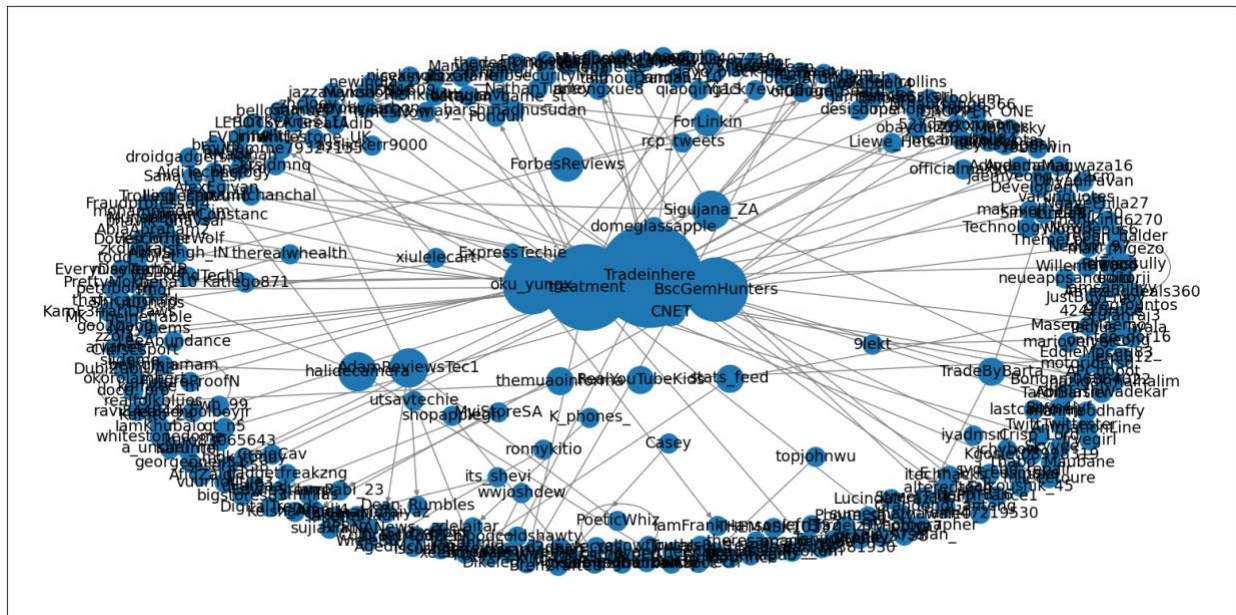


Figure 12: Network graph of Twitter users.

Turning to Twitter, users like Tradeinhere, treatment, BscGemHunters, and oku_yungx are positioned within a network (see **Figure 12**), demonstrating their influence. Therefore, these individuals would be suitable choices if Sony aims to promote its brand image or new products effectively.

IV. Conclusion

To support Sony in gaining insights into user reviews of the WH-1000XM5 headphones, data was collected from two major media platforms: YouTube and Reddit.

Following an extensive Text Analysis, we have acquired an overarching understanding of customer perspectives on the headphones. It is evident that a substantial majority of users express high satisfaction with the product's quality, particularly its sound quality. However, there are notable areas that require improvement, including battery life, the stability of the Active Noise Canceling feature, microphone audio quality, and touch controls on the headphones.

The report offers concrete recommendations for enhancing future products, encompassing "Innovation in Battery Management," "Enhancing ANC Stability," "Improving Call Quality and Microphone Audio," and "Optimizing Touch Controls."

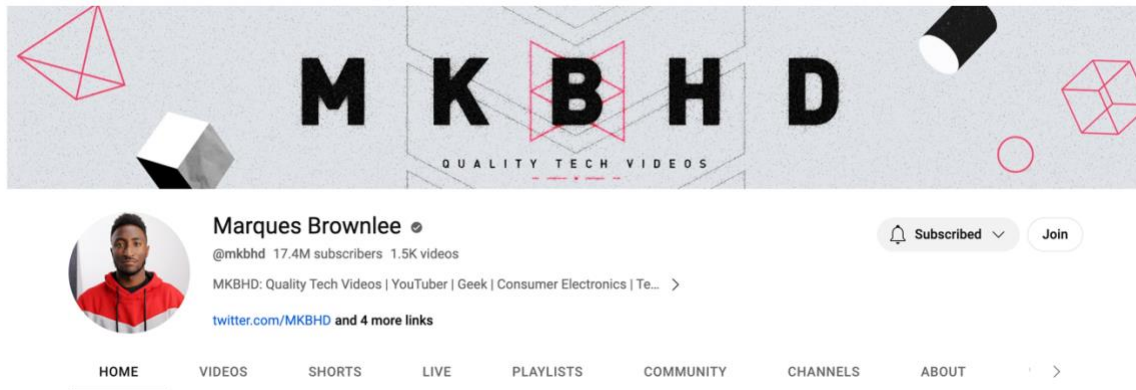
In conclusion, through Network Analysis, suitable opinion leaders have been identified on both Twitter and YouTube. These individuals can receive new prototypes for review and future promotional activities. Specifically, Marques Brownlee and Hardware Savvy are prominent YouTube channels with 17.4 million and 1.26 million subscribers, respectively. Meanwhile, Tradeinhere, treatment, and BscGemHunters are influential Twitter accounts within their respective networks.

V. Reference

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VI. Appendices

Appendix 1:



Appendix 2:

