INTRODUCTION :

The mobile phone industry has experienced significant growth and transformation over the past few decades. It represents a vital component of the global economy and the daily lives of billions of individuals ; virtually everyone owns a smartphone today, and they have a major impact on the daily life of most of its users, who rely on these devices for communication, entertainment, work, productivity, and much more. The continuous innovations in mobile technology, such as advancements in smartphone features and capabilities, make this sector highly competitive in nature and a compelling area for detailed web analysis ; smartphones have become the easiest entryway to the internet, so it's only logical that the way they manifest their presence on the web is crucial.

To this end, we decided to conduct a global analysis by selecting the ten leaders of the smartphone industry, which are the following (in order) :

1. **Apple**
2. **Samsung**
3. **Huawei**
4. **Xiaomi**
5. **Google (Pixel)**
6. **OnePlus**
7. **Sony (Xperia)**
8. **Nokia**
9. **Motorola**
10. **Oppo**

The objective of this project is to understand how these companies shape the landscape of the smartphone market and what factors explain the success of some companies over others through the analysis of their online presence across different platforms. More specifically, we want to

- Identify which company has the most robust online presence and why.
- Determine if there is a disparity in the metrics where a company excels and those where it struggles, and explore the reasons behind these disparities.
- Assess how the social media strategy of each brand impacts its market perception and consumer engagement.
- Explore the influence of YouTube as a platform for these brands in terms of viewer engagement and content strategy.

This analysis document will be organized as such : firstly, we will present the method used to collect data for this work ; the metrics, materials and procedures followed and a justification of the chosen methods. Secondly, we will present the main results obtained in a structured way and discuss them. Finally, we will conclude this document by describing the most important insights, how our original objectives are met and bring an answer the questions asked above.

METHODS :

Majestic

1. Official web domain

Majestic is useful for understanding a brand's SEO strength by analyzing the URL level. Majestic gives us access to metrics such as the number of backlinks and the trustworthiness of these sources. This helps measure how visible and reputable the brand is on the internet, as more high-quality backlinks generally mean better search engine rankings and perceived authority. Majestic's data can show which topics or industries see the brand as a leader, and how it stacks up against competitors in acquiring website links. The metrics we are collecting from Majestic are the following :

Metric	description	Variable type	Simple/combined	Bounded/not bounded
Trust flow (TF)	Quality of links that point to the site based on the number of clicks from a set of trusted sites.	Integer	combined	Bounded 0 to 100
Citation flow (CF)	Quantity of links pointing to a site (with no guarantee on the quality)	Integer	combined	Bounded 0 to 100
Topical trust flow	Inbound links sorted by industry category (or topic)	Category	combined	Bounded 0 to 100
External backlinks	Includes al backlinks pointing to the website	Category	simple	Not bounded
Referring domain	Counts all unique domains that link to the website	Integer	Simple	Not bounded

Table 1 : Explanation of the metrics obtained through Majestic

For each company, the domain used for analysis corresponds to the global official webpage of the company (.com), respectively : https://www.apple.com, https://www.samsung.com, https://www.huawei.com, https://www.mi.com, https://store.google.com, https://www.oneplus.com, https://www.sony.com, https://www.nokia.com, https://www.motorola.com, https://www.oppo.com.
For the topical trust flow, we have decided to compare only the trust flows of the topics related to the smartphone industries : Computers / Multimedia / Internet. This way, we only compare the trust flows of the companies in the industry related to our project.

2. Social media : X and Instagram

X offers insights into how users interact with the brand through their responses to tweets, retweets, likes, and overall engagement. X is by nature a platform which allows a lot of engagement between users (or companies and users in our case), it gives us a lot of information on the public perception of the brand and whether the brand's social media strategies are working efficiently or not and gives a lot of feedback on the opinion of users concerning new product launches, campaigns, or company news. Unfortunately, when Twitter became X, data scientists lost access to a lot of useful tools from the API which limits our possibilities of analysis.

Instagram offers various tools like posts, stories, reels, and live videos that allow brands to engage with their audience in interactive ways. Having a strong and trustworthy instagram presence is useful for a company's marketing.

Through Majestic, using their X and Instagram account's URL, we collected their trust flow, citation flow, number of external backlinks and the number of referring domains for each company's official X and Instagram account.

Companies X and Instagram links

Company	Twitter (X)	Instagram
Apple	https://twitter.com/Apple	https://www.instagram.com/apple
Samsung	https://twitter.com/SamsungMobile	https://www.instagram.com/samsung
Huawei	https://twitter.com/Huawei	https://www.instagram.com/huawei
Xiaomi	https://twitter.com/Xiaomi	https://www.instagram.com/xiaomi.global
Google (Pixel)	https://twitter.com/madebygoogle	https://www.instagram.com/madebygoogle
OnePlus	https://twitter.com/oneplus	https://www.instagram.com/oneplus
Sony	https://twitter.com/Sony	https://www.instagram.com/sony
Nokia	https://twitter.com/nokia	https://www.instagram.com/nokia
Motorola	https://twitter.com/Moto	https://www.instagram.com/motorola
Oppo	https://twitter.com/OPPO	https://www.instagram.com/oppo

Table 1 : links of the Twitter (X) and Instagram accounts

Youtube

YouTube has over 2 billion logged-in monthly users, providing a vast audience pool for brands. This wide reach allows brands to connect with diverse demographics globally. Information gathered from Youtube is crucial for assessing how engaging a brand's video content is. YouTube provides detailed analytics that help brands track the performance of their videos. Metrics like view count, watch time, revenue generated, interaction rate (likes, comments, shares), and subscriber growth offer insights into content effectiveness and viewer preferences. These analytics help brands refine their video strategies, improve engagement, and maximize the ROI on their content. Thanks to a wide API, Youtube allows data scientists to get a large array of crucial information.

1. Webometric Analyst

With the help of Webometric Analyst, we gathered for each company's official Youtube channel their view count, subscriber count, video count and topic categories. The official Youtube channels are the following :

https://www.youtube.com/@Apple, www.youtube.com/@Samsung, www.youtube.com/@huawei, www.youtube.com/@xiaomi, www.youtube.com/@madebygoogle, www.youtube.com/@OnePlusT, www.youtube.com/@Sony, www.youtube.com/@Nokia, www.youtube.com/@Moto, www.youtube.com/@OPPOglobal.

Once a Youtube API key is generated on their official website (which is free of charge), we can input it into Webometric to extract data.

2. Sentiment analysis

Sentiment analysis helps decipher the emotional tone behind the comments and feedback on YouTube videos. This allows us to measure if the audience feels positive, negative, or neutral about their content. Understanding these emotional reactions can help brands and creators tailor their communication and content to better resonate with their audience.

To perform this task, we first had to extract the comments from a selection of Youtube videos. To this end, we used the tool Youtube Multi Video Downloader, created by user ashleve, available on GitHub (https://github.com/ashleve/youtube_multi_video_comment_downloader)

After a simple cleaning of the comments using a small python script we created, the second step was to perform the actual sentiment analysis. We used the python library 'TextBlob', which we used in a little script available in the annex. Finally, we used another python script to plot the results.

We selected two videos per official Youtube from which we extracted the comments for the sentiment analysis : firstly, the video with the most views on the channel, and secondly, a video posted 7 days ago (or more if the most recent video on the channel is more than 7 days old) relative to the date of the analysis (07.04.2025). With this choice, we can see what is the sentiment of the users on a video that performed well in terms of views, and on a 'control' video which corresponds to relatively recent content that exhibits an average performance.

Some companies disable comments on all of their videos ; it is the case of Apple, and some disable them partially, which is the case of Nokia. For this reason, we had to exclude Apple from our sentiment analysis, and for Nokia we decided to pick the two videos with the most views possible that have comments enabled. Here is the selection of videos :

1. **Apple** (https://www.youtube.com/@Apple) *EXCLUDED FROM THE ANALYSIS*
2. **Samsung** (www.youtube.com/@Samsung)
    1. https://youtu.be/-kfblth4tW0?si=Y9x56-2T14p1kv0l
    2. https://youtu.be/55p0nryjKQA?si=Wavccrd5ogqmdOxj
3. **Huawei** (www.youtube.com/@huawei)
    1. https://youtu.be/1dnt7FP7qaw?si=Cp_MojLYbG9VTTdG
    2. https://youtu.be/v6LgCTpq73s?si=zCCJx-WNScpVKWyW
4. **Xiaomi** (www.youtube.com/@xiaomi)
    1. https://youtu.be/NhSgceI4icM?si=zvDy8LTJ8Vu1OLfc
    2. https://youtu.be/ixajHBaPXUk?si=WkeZQEDRYEZ7p86O
5. **Google (Pixel)** (www.youtube.com/@madebygoogle)

    1. https://youtu.be/ZSbrP-ckTfU?si=SHJwD0OZ02xWsVGv
    2. https://youtu.be/k2Bz3uHiyhQ?si=r5jgmQy2zL9942jv
6. **OnePlus** (www.youtube.com/@OnePlusTech)
    1. https://youtu.be/bWq_NYu9tSU?si=OFkJIN_ITreNvieC
    2. https://youtu.be/GcXUi1Xj9i8?si=w7935t5MJSrElgOV
7. **Sony (Xperia)** (www.youtube.com/@Sony)
    1. https://youtu.be/iJUab499PVA?si=6S2RO0JF7lgERwW9
    2. https://youtu.be/4QMtiyciyYI?si=jEqAmVuNaOt8-IGa
8. **Nokia** (www.youtube.com/@Nokia)
    1. https://www.youtube.com/watch?v=H5VeQ9d_Q88
    2. https://www.youtube.com/watch?v=A3M0CrxOF90
9. **Motorola** (www.youtube.com/@Moto)
    1. https://youtu.be/9ntdGWhRCpU?si=xxuOZ8KEQYde4CSh
    2. https://youtu.be/7RnOPr_oIXQ?si=kN1IAV6Kfc0xA18h
10. **Oppo** (www.youtube.com/@OPPOglobal)
    1. https://youtu.be/CtF1sdPwESI?si=pZ_3dfpIPU-eQOpG
    2. https://youtu.be/E-ZerOMEduE?si=ZoU7uruCk4_xPj-_

RESULTS :

Majestic

1. Official web domain

Company	Trust flow (TF)	Citation flow (CF)	Topical trust flow (Computers / Multimedia / Internet)	External backlinks	Referring domain
Apple	**97**	**94**	**92**	**3.8 bil.**	**3.2 mil.**
Samsung	84	72	59	34 mio.	150k
Huawei	73	73	64	273 mio.	329k
Xiaomi	70	62	32	4.9 mio	49k
Google (Pixel)	72	65	65	1.4 mio	43k
OnePlus					
Sony					
Nokia					
Motorola					
Oppo	32	58	26	1.5 mio	16k

Table 3 : result of the metrics obtained through Majestic

By looking at the trust flow, we can see that Apple has the best trust flow score (97), suggesting it is the most trusted brand among those analyzed.

Apple also has the largest citation flow (94), suggesting that it is the most influential brand on the web among those analyzed. Also, it has a huge 3.8 billion external inbound links, and 3.3 million referring domain, way in front of any other phone brand.

This leads me to think that Apple is the leader on the phone market, by being the most trustworthy and influential brand.

We can see that Huawei comes in second with a TF and CF of 73, demonstrating good reliability and a reasonable spread of influence globally. However, it is significantly behind Apple in terms of trust and influence ; it has only 44 thousand referring domains and 42 million external inbound links, which is a lot less than Apple.

Xiaomi and Google Pixel perform about the same in terms of trust flow. This could indicate that they are direct concurrents. However, Xiaomi has significantly less external links (200k vs 1.5 million for Google Pixel), however, it has more referring domains than Google Pixel.

It is interesting to compare the American and Chinese brand : we can see that the USA has Apple as its most influential phone brand and Google Pixel as second, whereas China has Huawei as most influential phone brand, which could almost be compared to Apple (From a distance however, because Huawei still scores significantly lower than Apple), and Xiaomi as second most influential phone brand which comes in direct competition with Google Pixel (they score the same).

Oppo is in a different league, scoring by far the lowest with a TF of only 32. We can see it has a much smaller online presence than the other brands and is less trusted, suggesting it might be a newcomer on the market and has a lot less market share than the other brands, or is advertising itself somewhere else than on the web.

2. Social media : X and Instagram

a) Twitter (X)

Company	Trust flow	Citation flow	external backlinks	referring domains
Apple	25	40	15 269	1 434
Samsung	7	17	1,444	468
Huawei	20	35	2756	326

Xiaomi	15	41	128,976	268
Google (Pixel)	31	39	14,693	359
OnePlus	28	50	14,009	574
Sony	49	43	7,989	382
Nokia	59	50	32,759	790
Motorola	20	39	928	113
Oppo	0	0	634	19

Table 4 : Data obtained through majestic for Twitter (X)

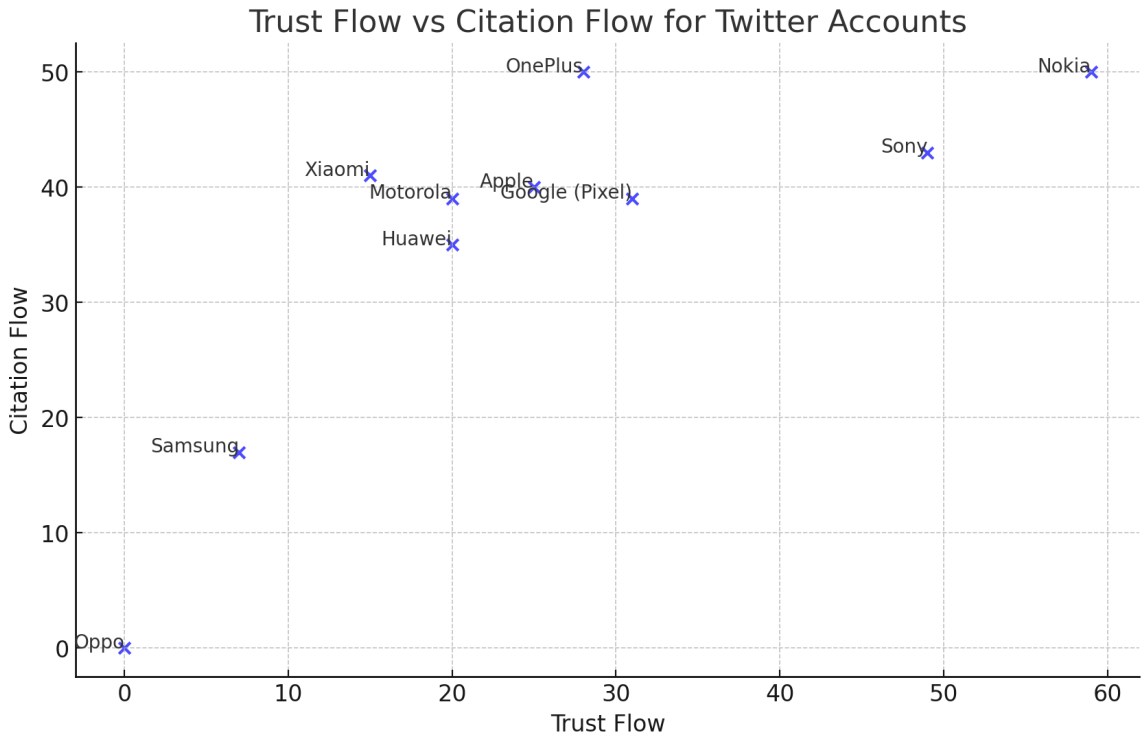

Figure 1 : comparison of the trust flow (X axis) and the citation flow (Y axis) of the analyzed companies Twitter (X) accounts

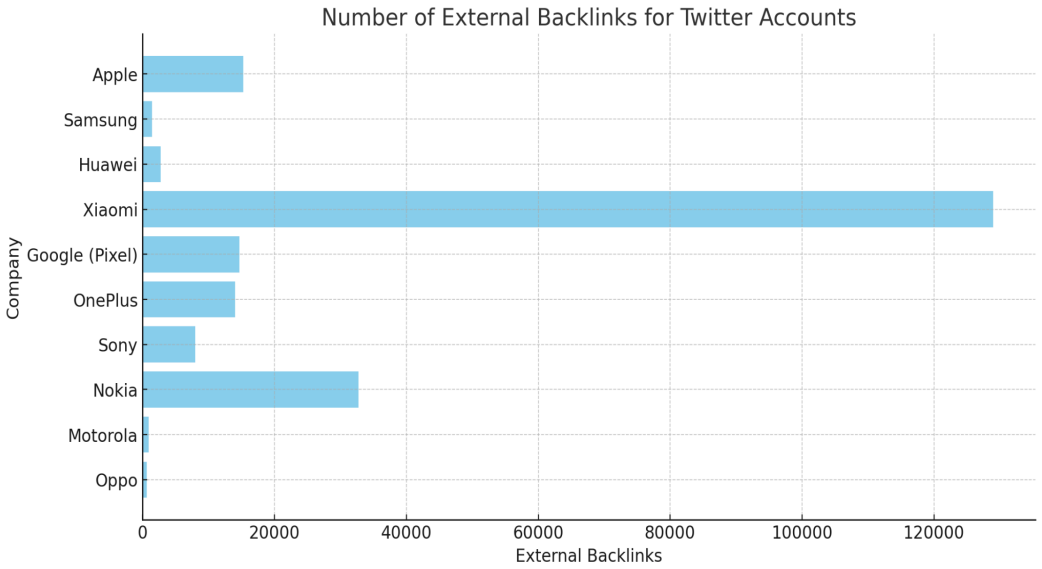

Figure 2 : number of external backlinks for Twitter (X) accounts

Nokia has the highest Trust Flow (59), indicating strong credibility.
OnePlus has the highest Citation Flow (50), meaning it is widely referenced.
Oppo has 0 in both Trust Flow and Citation Flow, indicating a lack of backlinks and credibility.
Samsung has very low Trust Flow (7) compared to others, despite being a major brand.

Xiaomi has the highest number of external backlinks (129,000), indicating a strong presence and high external link activity.
Nokia follows with 32,000 backlinks, suggesting significant mentions across the web.
Apple, Google (Pixel), and OnePlus also have a decent number of backlinks, contributing to their online visibility.
Oppo has the lowest number of backlinks (634), indicating minimal external references.

b) Instagram

Company	Trust flow	Citation flow	external backlinks	referring domains
Apple	27	39	9 515	1 020
Samsung	25	33	412	144
Huawei	28	40	1 751	95
Xiaomi	21	40	71 216	114
Google (Pixel)	28	42	58 680	81
OnePlus	28	49	9 854	140
Sony	49	43	494 919	148
Nokia	32	35	5 540	325

Motorola	1	8	26	13
Oppo	24	43	3 485	66

Table 5 : Data obtained through majestic for Instagram

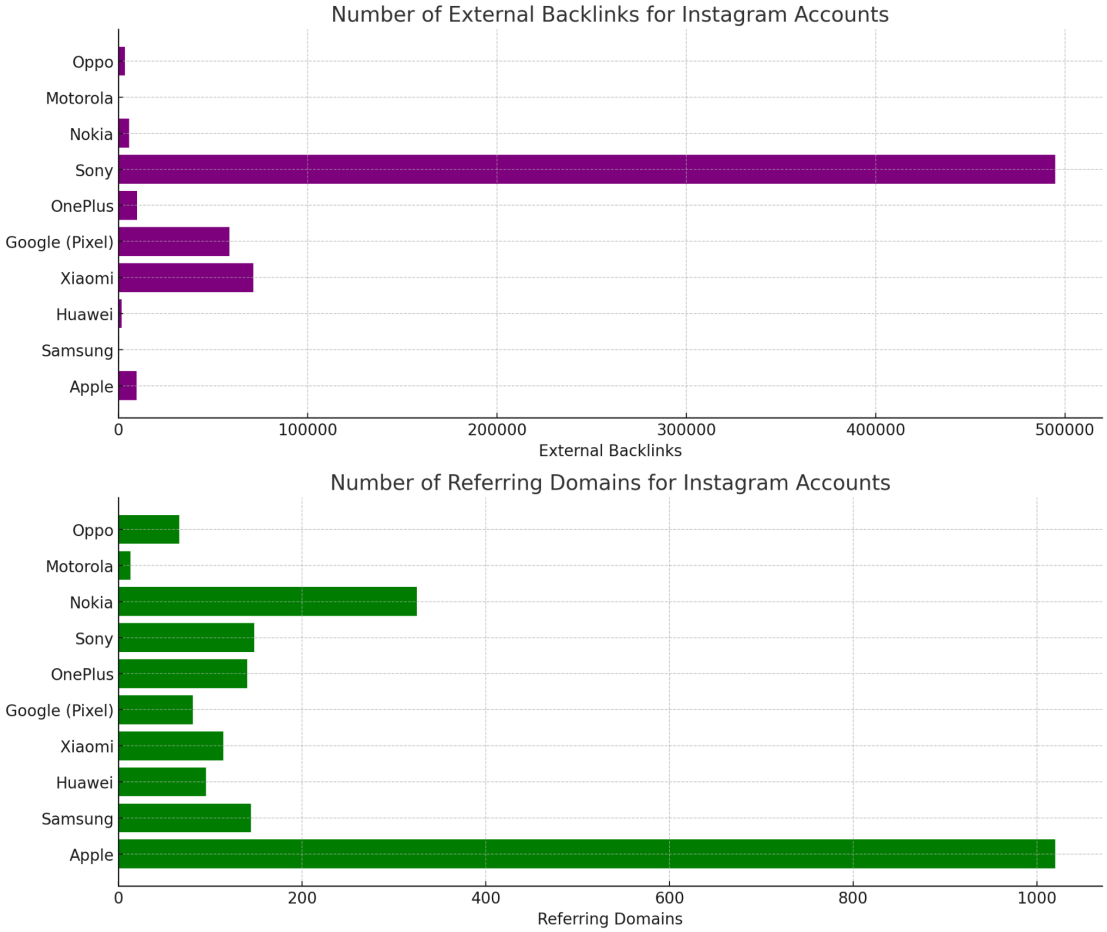

Figure 3 : number of external backlinks and referring domains for Instagram accounts

Sony has the highest Trust Flow (49), indicating strong credibility and high-quality backlinks.
OnePlus, Google (Pixel), and Huawei all have a Trust Flow of 28, showing consistent reliability.
Motorola has the lowest Trust Flow (1), suggesting almost no credible backlinks.
Citation Flow is generally higher than Trust Flow across companies, meaning more references but not necessarily from high-quality sources.
Oppo has a relatively strong Citation Flow (43) compared to its Trust Flow (24), meaning it's frequently mentioned but lacks strong credibility.

Trends and Insights:

Trust vs. Citation Flow: Generally, Citation Flow tends to be higher than Trust Flow across most companies, indicating a higher volume of mentions that do not necessarily translate to quality or credible backlinks. This suggests that while these companies are frequently mentioned, they may need to try to improve the quality of these mentions.

Platform Differences: Some companies like Nokia and Sony show strong performance across both Twitter and Instagram, indicating a well-rounded social media strategy. In contrast, companies like Motorola and Oppo might need to enhance their engagement strategies, especially on Instagram.

Youtube

1. Webometric Analyst

Channel	viewCount	subscriberCount	hiddenSubscriberCount	videoCount	topicCategories
Apple	1’138’542’239	19’900’000	false	191	“Technology", “Lifestyle_(sociology)"
Samsung	2’307’416’139	7’250’000	false	2199	“Lifestyle_(sociology)", “Technology"
Huawei	460’154’822	1’390’000	false	3121	“Lifestyle_(sociology)", “Society”, “Technology", “Business"
Xiaomi	743’524’327	6’050’000	false	1878	“Lifestyle_(sociology)", “Technology"
Google (Pixel)	784’384’600	1’700’000	false	774	“Lifestyle_(sociology)", “Technology"
OnePlus	565’004’941	1’430’000	false	874	“Technology", “Lifestyle_(sociology)"
Sony	236’951’829	662’000	false	2108	“Technology", “Entertainment”, “Lifestyle_(sociology)"
Nokia	25’127’910	409’000	false	2638	“Business", “Technology", “Society”, “Knowledge”, “Lifestyle_(sociology)"
Motorola	13’800’875	361’000	false	326	“Technology", “Lifestyle_(sociology)"
Oppo	53’508’085	478’000	false	413	“Technology", “Lifestyle_(sociology)"

Table 6 : Data obtained through Webometric Analyst for the Youtube channels

View and Subscriber Analysis

Google (Pixel) and Xiaomi stand out with the highest view counts by far, each having more than one billion views. This is probably linked to the fact that they have the biggest market shares, but could also suggest a stronger content strategy that attracts viewers compared to the other brands (for example, we know that Apple ads are creative and unique). Google’s Pixel channel has fewer videos than Xiaomi but still maintains a high number of views. Oppo, despite having a low trust flow on its other social media platforms, has a higher number of views than more established brands like Motorola and Nokia. This suggests a strong content strategy for Oppo on YouTube more than on other platforms.

Samsung has the highest subscriber count, which showcases its strong brand loyalty and market presence. Despite fewer total views compared to Google Pixel, its higher subscriber count reflects a potentially more engaged audience over the long term.

Huawei, while having fewer subscribers than Samsung and Xiaomi, has a remarkably high video count, which may contribute to its total view count being robust, showing its commitment to content delivery.

Video Content and Engagement

Sony, despite its lower subscriber and view count, has a high number of videos, which may be explained by the fact that the range of products of Samsung is enormous compared to other brands in our comparison.

OnePlus shows a balanced approach with a moderate number of videos and relatively high views and subscribers, suggesting effective content that resonates well with its audience.

Nokia and Motorola show lower numbers in views and subscribers, indicating that the brands may not be growing that much but rather keep their current market share and public (this is particularly true considering that both of these brands are pretty old).

Topic Categories and Their Implications

The topic categories reveal the focus areas of these channels. Most channels feature “Technology” and “Lifestyle (sociology)”, indicating a blend of tech-focused content with lifestyle elements, which appeals to a broad audience.

Channels like Sony and Nokia include categories like “Entertainment” and “Knowledge”, possibly suggesting more content diversification and a different image of the brand perceived by the users.

2. Sentiment analysis

The comments are separated into three categories : negative, neutral and positive depending on the sentiment they carry.

Brand	Negative (%)	Neutral (%)	Positive (%)
Apple	-	-	-
Samsung	2.5	86.0	11.4
Huawei	6.1	40.8	53.1
Xiaomi	7.3	68.9	23.7
Google (Pixel)	6.9	56.3	36.8
OnePlus	10.5	57.2	32.3

Sony	23.8	35.3	40.9
Nokia	1.1	53.3	45.6
Motorola	14.7	57.4	27.9
Oppo	11.4	47.9	40.7

Table 7 : Result of the sentiment analysis

Detailed sentiment analysis by company :

Google (Pixel) enjoys a robust positive sentiment, indicating a strong appreciation for its products. The significant neutral sentiment suggests general contentment or a lack of strong feelings, while the relatively low negative percentage shows few substantial issues with the brand.

Huawei displays a very high positive sentiment, reflecting excellent consumer satisfaction and potentially effective marketing strategies. The neutrality could suggest a cautious optimism, possibly influenced by external business conditions or geopolitical issues.

Motorola's sentiment profile indicates a majority neutral perception, with a significant negative sentiment that could be concerning, pointing to potential dissatisfaction among a subset of consumers. The positive sentiment, while decent, suggests room for improvement.

Nokia shows strong positive sentiment and an overwhelming neutral response, coupled with an exceptionally low negative sentiment. This indicates a high level of consumer trust and satisfaction.

OnePlus has a healthy positive sentiment but a noticeable level of negativity, suggesting areas where consumer expectations may not be fully met. The substantial neutral sentiment indicates a significant portion of the audience is reserved in their judgment, possibly waiting to see how the brand evolves.

Oppo enjoys a strong positive response, indicative of successful market penetration and consumer satisfaction, particularly in competitive markets. The negative sentiment, while not negligible, suggests specific areas that could be improved.

Samsung shows an overwhelmingly neutral sentiment, indicating a broad acknowledgment without strong feelings either way. The low positive and negative sentiments suggest a stable presence in the market but also highlight a potential lack of excitement or innovation perceived by the audience.

Sony exhibits a mixed sentiment with a high negative percentage, which is concerning and suggests dissatisfaction among a significant portion of its audience. The positive sentiment is robust, indicating a strong fan base, potentially loyal to Sony's legacy in quality electronics, but they need to address the cause of the large amount of negative sentiments.

Xiaomi's largely neutral sentiment suggests general satisfaction or non-contentious views among consumers, with a respectable positive sentiment indicating appreciation for its value-for-money proposition.

Comparative analysis across companies:

• Most positive sentiments: Huawei and Oppo show the highest positive sentiments, indicating strong customer satisfaction and brand approval. Other companies such as Nokia also exhibit very high positive sentiment.

• Most concerning negative sentiments: Sony stands out with the highest negative sentiment, suggesting specific areas requiring urgent attention to improve consumer perceptions.

• Least negative sentiments : Nokia has the least negative comments, with a remarkably low negative sentiment percentage of 1.1%. This indicates an exceptionally favorable consumer perception with minimal dissatisfaction or complaints regarding their products or services. This could be reflective of successful quality control, customer service, or product satisfaction among Nokia's users.

• Most neutral sentiment: Samsung's high neutrality might indicate a mature market presence but could also suggest a need for reinvigorating brand engagement strategies to boost consumer enthusiasm.

CONCLUSIONS :

This comprehensive analysis of the digital presence of leading smartphone manufacturers has unveiled significant insights into how these brands leverage online platforms to strengthen their company's image and market positions. A key finding of the study is the dominant online presence of Apple, supported by robust metrics across various platforms, which underpins its status as a market leader. On the other hand, emerging brands like Oppo show promising growth in digital engagement, highlighting their strategic investments in online marketing.

The study also reveals that YouTube and social media platforms are useful for brands to engage directly with consumers, influence perceptions, and drive loyalty. High engagement levels on YouTube for brands like Samsung and Google Pixel demonstrate the effectiveness of their content strategies.

However, we must remember that this analysis is not thorough. The data collected is not thorough between all the companies ; for example, we were not able to conduct a sentiment analysis on the comments of Apple's Youtube video because the channel's moderators decided to disable the comment section. Also, the tools themselves might introduce bias in their results ; Majestic's definition of trustworthy websites is subjective and depends on the specific datasets these tools access, the sentiment analysis of TextBlob is also subjective because it depends on a predefined dictionary and might give false positive on some comments since it sometimes lacks the ability to understand human sentiment.

- Based on the analysis conducted through various web metrics and social media engagement, Apple stands out with the most robust online presence. This is evidenced by its high Trust Flow and Citation Flow scores in Majestic data, indicating strong credibility and extensive reach. Apple's strategic use of content and its ability to generate substantial backlinks also suggest its dominant position in the industry.
- The disparities in metrics among the companies can largely be attributed to the differences in their marketing strategies and the demographics they target. For example, while Apple and Samsung show high engagement and trust online, new market entrants like Oppo have lower scores but are improving their presence rapidly. Companies like Sony and Motorola, despite being pioneers of the industry, show varying levels of engagement that may reflect shifting market strategies or consumer preferences towards younger brands.
- Impact of Social Media Strategy: The social media strategies of these companies significantly impact their market perception. Brands with active engagement on platforms like Instagram and Twitter, such as Huawei and OnePlus, enjoy positive sentiments from the audience. In contrast, brands with less active or engaging content tend to have a more neutral or even negative perception, as seen with Sony's higher negative sentiment rates.
- YouTube Influence: YouTube serves as a critical platform for these brands, offering a direct channel to engage with diverse demographics globally. High view counts and subscriber numbers, especially for Samsung and Google Pixel, underscore the success of their video content strategies. Sentiment analysis on YouTube comments also reveals that effective video content can significantly enhance brand perception and engagement.