

Internet - Korea

Oct-Dec 2023: time spent declines 4% YoY

Industry Overview

Mobile app data: TTS decline continues

We tracked time spent and session counts of 15 major apps across search, messenger, social media, video, and social media in Korea from Jan 2020 to Dec 2023, based on Sensor Tower data. In Oct-Dec 2023, we saw three secular trends: 1) aggregated TTS on the 15 apps declined 4% YoY, vs. -1% YoY in 3Q23; 2) on annual basis, -4% YoY in 2023, vs. -2% YoY in 2022, 3) video apps likely to witness the most notable recovery; and 4) by individual app, YouTube/KakaoTalk/Instagram were top-ranked in terms of daily TTS, while KakaoTalk/ YouTube/ Naver posted the highest DAUs.

Search: down 3% YoY in Oct-Dec

In 2023, aggregated TTS on the four search apps*declined 3% YoY. In Oct-Dec, the aggregated figure went down 3% YoY vs. flat YoY in 3Q23. By individual app, Naver accounted for 57% of the aggregated TTS, followed by Google Chrome (42%), remotely by Daum (1%) and ChatGPT (0.1%). ST data reveal that ChatGPT, which became available globally from 18 May, was used by 142,000 daily users (comprising 14% of MAU) for 8.7 mins per user per day in Dec. TTS of Naver decreased 11% YoY in Dec vs. -7%/-9% YoY in Oct/ Nov. We expect a marginal recovery in Naver's engagement indicators after the implementation of HyperCLOVA X. Additionally, Naver's live game streaming service CHZZK (beta launched on 19 Dec) is expected to create synergies with Naver app's Game tab/ Clip (SFV) and communities within Naver.

Messenger: KakaoTalk down 3% YoY

In 2023, agg. TTS of KakaoTalk declined 7% YoY vs. -11% YoY in 2022. In Oct-Dec, it decreased 3% YoY, in line with a 3% decline in 3Q23. It still enjoys a dominant position with 95% market share, followed by FB Messenger (3%) / WhatsApp (2%) over the same period. ST data suggest that on average 38mn users (-3% YoY) used Kakao Talk for 27 mins per day on average (-1% YoY) in Dec. If Kakao's open-chatting initiatives turn out be successful, they could lead to a meaningful rebound in user engagement, in our view.

Video/ OTT/ social media: AfreecaTV's solid growth

In 2023, agg. TTS of YT/ IG rose 15%/ 3% YoY, respectively, continuing growth from 2022 (+11%/ +5% YoY). In Oct-Dec, YT (+2%) and IG (+7%) continued their YoY rise in TTS, mainly as time spent per user increased. Video/ OTT – TTS on the five apps** declined 1% YoY. YT accounted for 88% share, followed by TikTok (9%), Netflix (3%), AfreecaTV (2%), and Twitch (1%). TTS of YT up 2% YoY, while that of TikTok declined 28% YoY, as the impact of heavy promotions back in 2H21-1H22 fades away. Netflix's TTS/ DAU +5%/ +7% YoY in Oct-Dec. Daily TTS of AfreecaTV was +8% in Oct-Dec, maintaining solid growth from Jul. Social media - TTS on the three apps*** declined 12% YoY. IG (65% M/S) again increased 7% YoY, but Facebook (27%) -37% and X (formerly Twitter; 7%) -13%, dragging total growth. IG alone posted a healthy growth in TTS (+7%) and avg. time spent per user came in at 59 minutes/day (+7%) in Oct-Dec.

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Acronyms

TTS – Total Time Spent

ST - Sensor Tower

OTT - Over-the-Top

MAU - Monthly Average User

DAU - Daily Average User

SFV - short-form video

YT - YouTube

IG – Instagram

M/S - market share

- * four search apps include Naver, Google Chrome, Daum, and ChatGPT (from 18 May)
- ** five video apps include YouTube, TikTok, Netflix, AfreecaTV, and **Twitch**
- *** three social media apps include Instagram, Facebook and X (formerly Twitter)

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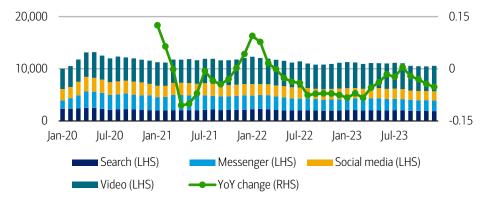
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Netflix down 1% in Dec	21



Key charts

Exhibit 1: Total time spent - Major 15 apps (years)

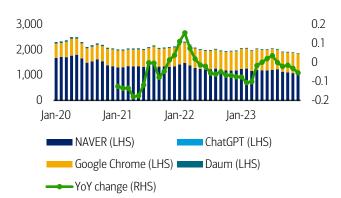
Aggregated total time spent on the 15 apps declined 4% YoY in 4Q23 vs. down 1% YoY in 3Q23



Source: Sensor Tower

Exhibit 2: Total time spent - Search apps (years)

Aggregated TTS on the four search apps decreased 3% YoY in 4Q23 vs. flat YoY in 3Q23 $\,$

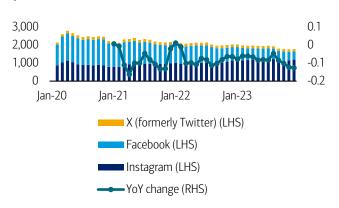


Source: Sensor Tower

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Exhibit 4: Total time spent - Social media apps (years)

Aggregated TTS on the three apps declined 12% YoY in 4Q23 vs. -7% YoY in 3Q23 $\,$



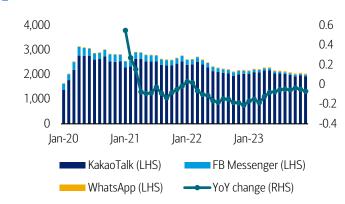
Source: Sensor Tower

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Exhibit 3: Total time spent - Messenger apps (years)

Aggregated TTS of Kakao Talk was down 5% YoY in 4Q23, in line with -5% YoY in 3Q23

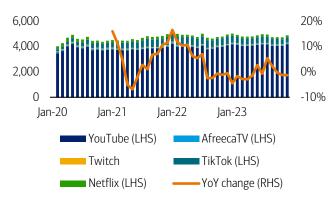


Source: Sensor Tower

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Exhibit 5: Total time spent - Video apps (years)

Aggregated TTS on the five apps declined 1% YoY in 4Q23 vs. +2% YoY in 3Q23



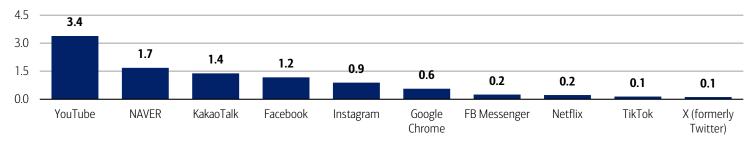
Source: Sensor Tower



Apps by total daily time spent

Exhibit 6: Jan 2020 - Top 10 apps by total time spent per day (thousand years)

Korea's mobile users spent most time on YouTube/NAVER/KakaoTalk in Jan 2020, spending daily average of 3.4k/1.7k/1.4k yrs

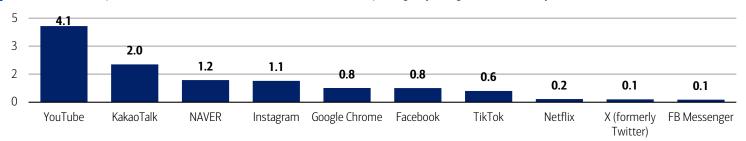


Source: Sensor Tower

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Exhibit 7: Dec 2022 - Top 10 apps by total time spent per day (thousand years)

Korea's mobile users spent most time on YouTube/KakaoTalk/NAVER in Dec 2022, spending daily average of 4.1k/2.0k/1.2k yrs

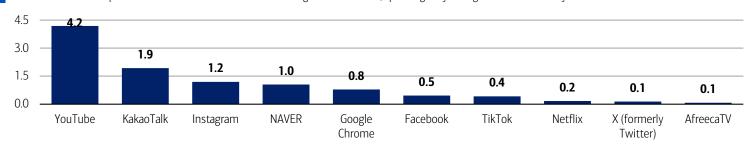


Source: Sensor Tower

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Exhibit 8: Dec 2023 - Top 10 apps by total time spent per day (thousand years)

Korea's mobile users spent most time on YouTube/KakaoTalk/Instagram in Dec 2023, spending daily average of 4.2k/1.9k/1.2k yrs

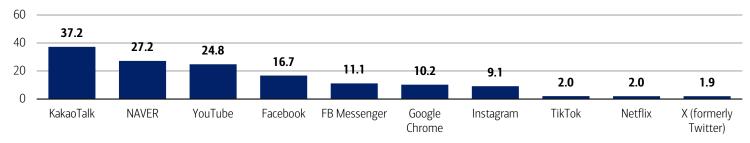


Source: Sensor Tower

Apps by DAU

Exhibit 9: Jan 2020 - Top 10 apps with highest DAU (mn)

Korea's top apps with most daily average users were KakaoTalk/NAVER/YouTube in Jan 2020 (37/27/25mn)

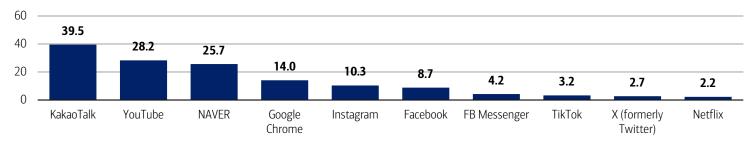


Source: Sensor Tower

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Exhibit 10: Dec 2022 - Top 10 apps with highest DAU (mn)

Korea's top apps with most daily average users were KakaoTalk/YouTube/NAVER in Dec 2022 (40/28/26mn)

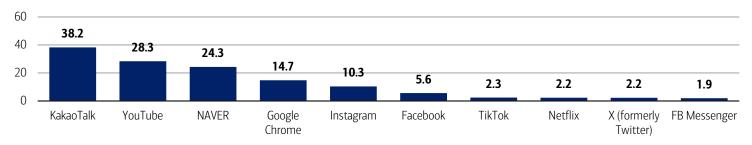


Source: Sensor Tower

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Exhibit 11: Dec 2023 - Top 10 apps with highest DAU (mn)

Korea's top apps with most daily average users were KakaoTalk/YouTube/NAVER in Dec 2023 (38/28/24mn)

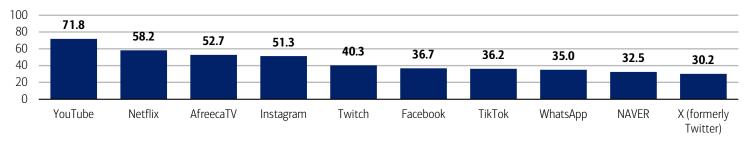


Source: Sensor Tower

Apps by daily time spent per user

Exhibit 12: Jan 2020 - Top 10 apps by average time spent per user per day (mins)

Active users of YouTube/Netflix/AfreecaTV spent the most time on each app in Jan 2020, spending 72/58/53mins daily

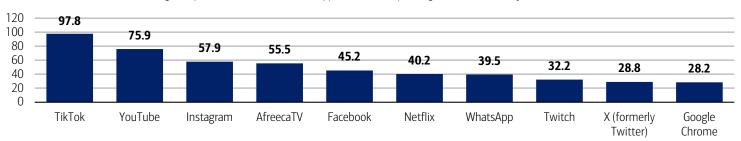


Source: Sensor Tower

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Exhibit 13: Dec 2022 - Top 10 apps by average time spent per user per day (mins)

Active users of TikTok/YouTube/Instagram spent the most time on each app in Dec 2022, spending 98/76/58mins daily

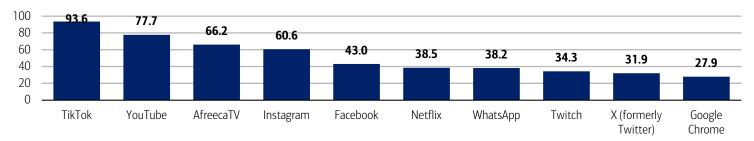


Source: Sensor Tower

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Exhibit 14: Dec 2023 - Top 10 apps by average time spent per user per day (mins)

Active users of TikTok/YouTube/AfreecaTV spent the most time on each app in Dec 2023, spending 94/78/66mins daily



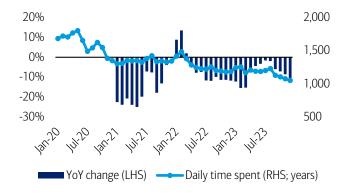
Source: Sensor Tower

Search - TTS down 4% YoY in 4Q23

Naver down 11% in Dec

Exhibit 15: NAVER - Total time spent per day (years)

It was 1,049 years, down 11.3% YoY in Dec

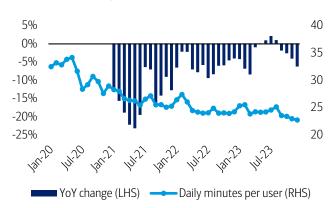


Source: Sensor Tower

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Exhibit 17: NAVER - Average time spent per user per day (mins)

It was 23 minutes per day, down 6.2% YoY in Dec

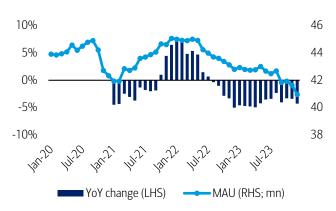


Source: Sensor Tower

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Exhibit 19: NAVER - MAU (monthly)

It was 41.0mn, down 4.3% YoY in Dec

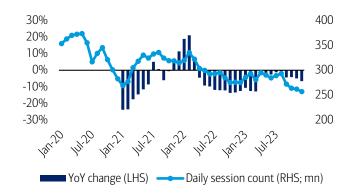


Source: Sensor Tower

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Exhibit 16: NAVER - Total sessions per day (mn sessions)

It was 257mn, down 6.6% YoY in Dec

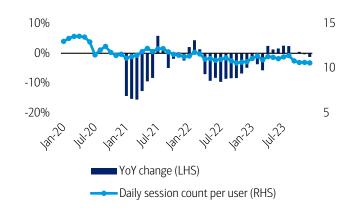


Source: Sensor Tower

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Exhibit 18: NAVER - Average sessions per user per day

It was 10.6 per day, down 1.2% YoY in Dec

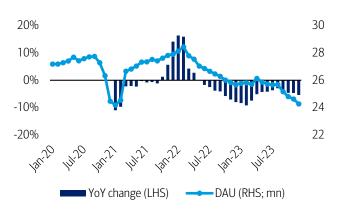


Source: Sensor Tower

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Exhibit 20: NAVER - DAU (monthly)

It was 24.3mn, down 5.4% YoY in Dec



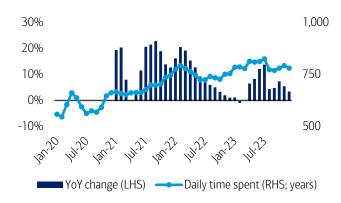
Source: Sensor Tower



Google Chrome up 3% in Dec

Exhibit 21: Google Chrome - Total time spent per day (years)

It was 781 years, up 3.4% YoY in Dec

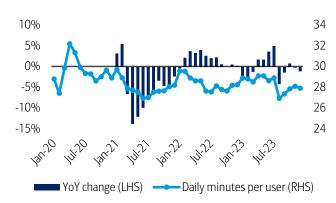


Source: Sensor Tower

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Exhibit 23: Google Chrome - Average time spent per user per day

It was 28 minutes per day, down 1.2% YoY in Dec

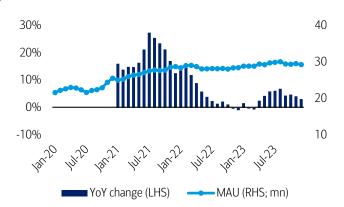


Source: Sensor Tower

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Exhibit 25: Google Chrome - MAU (monthly)

It was 29.3mn, up 3.0% YoY in Dec

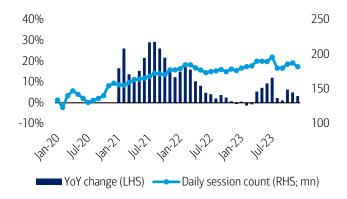


Source: Sensor Tower

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Exhibit 22: Google Chrome - Total sessions per day (mn sessions)

It was 182mn, up 3.2% YoY in Dec

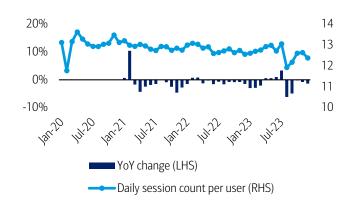


Source: Sensor Tower

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Exhibit 24: Google Chrome - Average sessions per user per day

It was 12.4 per day, down 1.4% YoY in Dec

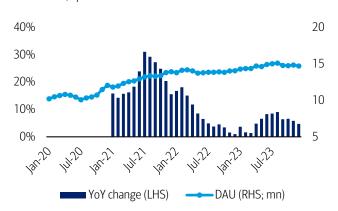


Source: Sensor Tower

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Exhibit 26: Google Chrome - DAU (monthly)

It was 14.7mn, up 4.7% YoY in Dec



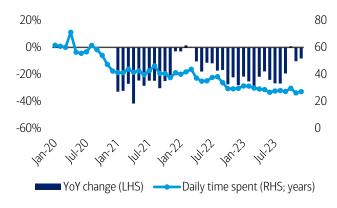
Source: Sensor Tower



Daum down 8% in Dec

Exhibit 27: Daum - Total time spent per day (years)

It was 27 years, down 8.2% YoY in Dec

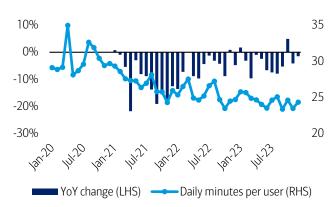


Source: Sensor Tower

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Exhibit 29: Daum - Average time spent per user per day (mins)

It was 24 minutes per day, down 1.5% YoY in Dec

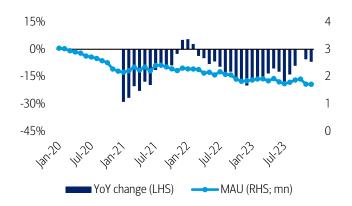


Source: Sensor Tower

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Exhibit 31: Daum - MAU (monthly)

It was 1.7mn, down 6.9% YoY in Dec

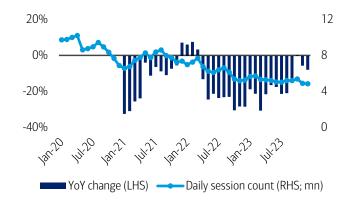


Source: Sensor Tower

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Exhibit 28: Daum - Total sessions per day (mn sessions)

It was 5mn, down 7.9% YoY in Dec

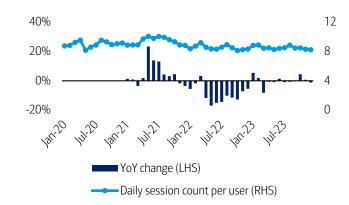


Source: Sensor Tower

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Exhibit 30: Daum - Average sessions per user per day

It was 8.2 per day, down 1.2% YoY in Dec

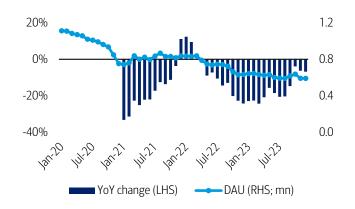


Source: Sensor Tower

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Exhibit 32: Daum - DAU (monthly)

It was 0.6mn, down 6.8% YoY in Dec

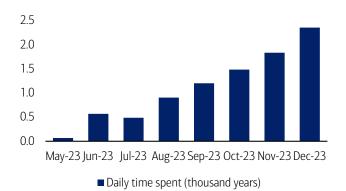


Source: Sensor Tower

ChatGPT at daily 8.7 mins per user in Dec

Exhibit 33: ChatGPT - Total time spent per day (years)

It was 2.4k years in Dec, up 28% MoM

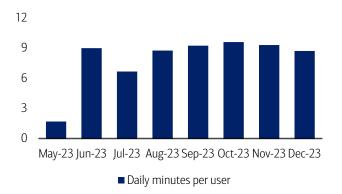


Source: Sensor Tower

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Exhibit 35: ChatGPT - Average time spent per user per day (mins)

It was 8.7 mins per user in Dec, down 6% MoM

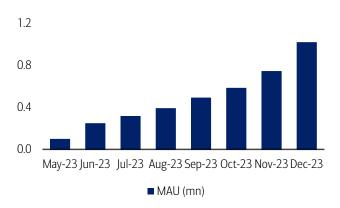


Source: Sensor Tower

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Exhibit 37: ChatGPT - MAU (monthly)

It was 1.0mn in in Dec, up 37% MoM

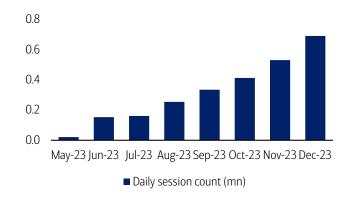


Source: Sensor Tower

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Exhibit 34: ChatGPT - Total sessions per day (mn sessions)

It was 691k sessions in Dec, up 30% MoM

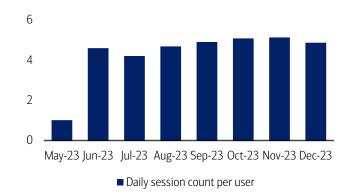


Source: Sensor Tower

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Exhibit 36: ChatGPT - Average sessions per user per day

It was 4.9 sessions in Dec, down 5% MoM

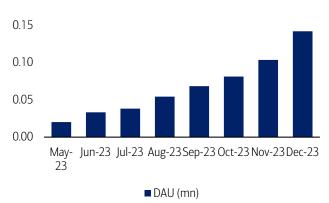


Source: Sensor Tower

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Exhibit 38: ChatGPT - DAU (monthly)

It was 142k in Dec, up 37% MoM



Source: Sensor Tower

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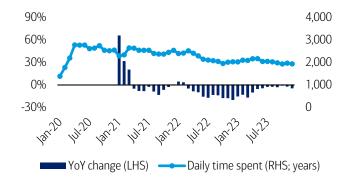
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Messenger – TTS down 5% YoY in 4Q23

KakaoTalk down 5% YoY in Dec

Exhibit 39: KakaoTalk - Total time spent per day (years)

It was 1,930 years, down 4.6% YoY in Dec

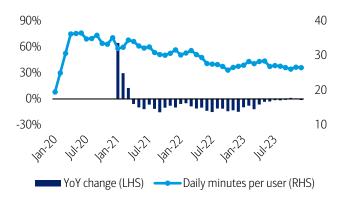


Source: Sensor Tower

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Exhibit 41: KakaoTalk - Average time spent per user per day (mins)

It was 27 minutes per day, down 1.4% YoY in Dec

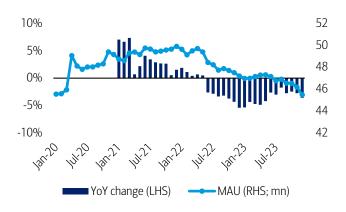


Source: Sensor Tower

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Exhibit 43: KakaoTalk - MAU (monthly)

It was 45.5mn, down 3.6% YoY in Dec

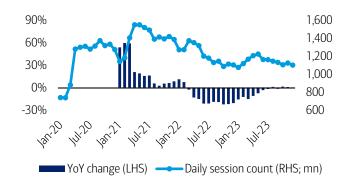


Source: Sensor Tower

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Exhibit 40: KakaoTalk - Total sessions per day (mn sessions)

It was 1,102mn, down 0.2% YoY in Dec

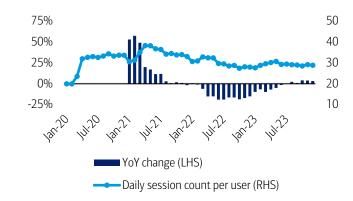


Source: Sensor Tower

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Exhibit 42: KakaoTalk - Average sessions per user per day

It was 28.8 per day, up 3.2% YoY in Dec

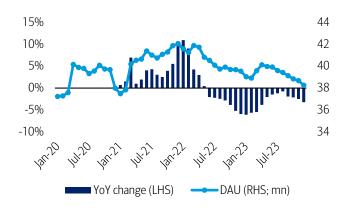


Source: Sensor Tower

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Exhibit 44: KakaoTalk - DAU (monthly)

It was 38.2mn, down 3.3% YoY in Dec

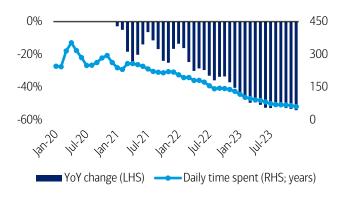


Source: Sensor Tower

FB Messenger down 54% in Dec

Exhibit 45: FB Messenger - Total time spent per day (years)

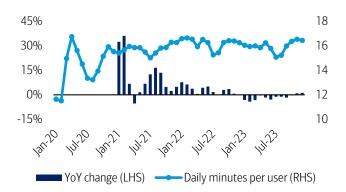
It was 60 years, down 54.2% YoY in Dec



Source: Sensor Tower

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Exhibit 47: FB Messenger - Average time spent per user per day (mins) It was 16 minutes per day, up 1.1% YoY in Dec

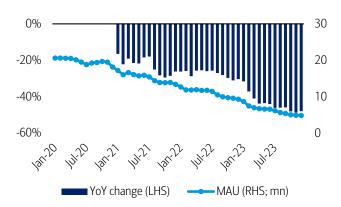


Source: Sensor Tower

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Exhibit 49: FB Messenger - MAU (monthly)

It was 4.8mn, down 48.0% YoY in Dec

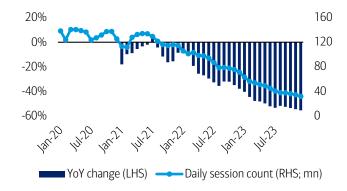


Source: Sensor Tower

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Exhibit 46: FB Messenger - Total sessions per day (mn sessions)

It was 31mn years, down 55.7% YoY in Dec

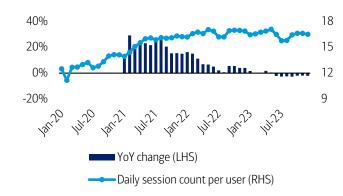


Source: Sensor Tower

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Exhibit 48: FB Messenger - Average sessions per user per day

It was 16.5 per day, down 2.2% YoY in Dec

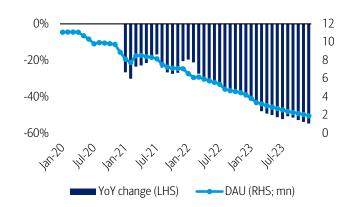


Source: Sensor Tower

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Exhibit 50: FB Messenger - DAU (monthly)

It was 1.9mn, down 54.7% YoY in Dec



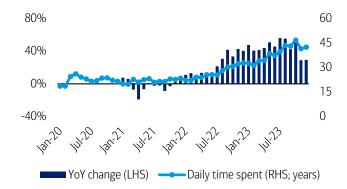
Source: Sensor Tower



WhatsApp up 29% in Dec

Exhibit 51: WhatsApp Messenger - Total time spent per day (years)

It was 42 years, up 29.2% YoY in Dec

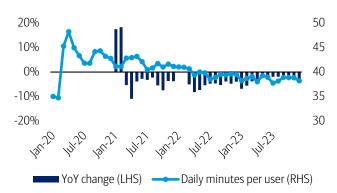


Source: Sensor Tower

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Exhibit 53: WhatsApp Messenger - Average time spent per user per day (mins)

It was 38 minutes per day, down 3.2% YoY in Dec

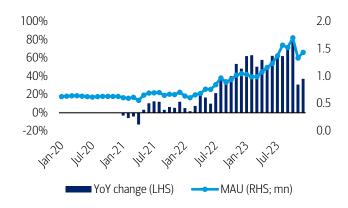


Source: Sensor Tower

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Exhibit 55: WhatsApp Messenger - MAU (monthly)

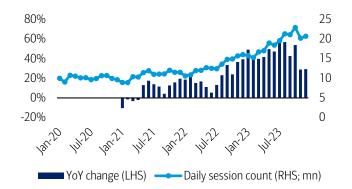
It was 1.4mn, up 37.1% YoY in Dec



Source: Sensor Tower

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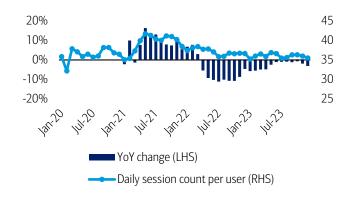
Exhibit 52: WhatsApp Messenger - Total sessions per day (mn sessions) It was 21mn years, up 29.3% YoY in Dec



Source: Sensor Tower

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Exhibit 54: WhatsApp Messenger - Average sessions per user per day It was 35.5 per day, down 3.2% YoY in Dec

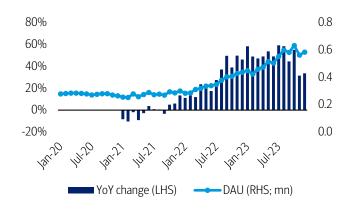


Source: Sensor Tower

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Exhibit 56: WhatsApp Messenger - DAU (monthly)

It was 0.6mn, up 33.5% YoY in Dec



Source: Sensor Tower

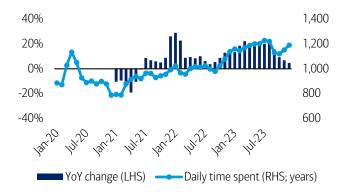


Social media – TTS down 12% YoY in 4023

Instagram up 5% in Dec

Exhibit 57: Instagram - Total time spent per day (years)

It was 1,189 years, up 4.6% YoY in Dec

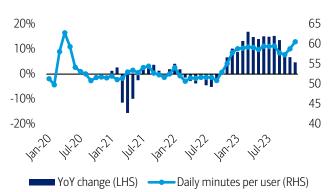


Source: Sensor Tower

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Exhibit 59: Instagram - Average time spent per user per day (mins)

It was 61 minutes per day, up 4.7% YoY in Dec

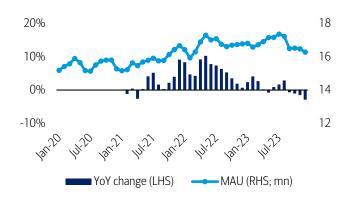


Source: Sensor Tower

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Exhibit 61: Instagram - MAU (monthly)

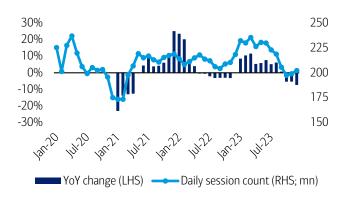
It was 16.3mn, down 2.9% YoY in Dec



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Exhibit 58: Instagram - Total sessions per day (mn sessions)

It was 202mn years, down 7.4% YoY in Dec

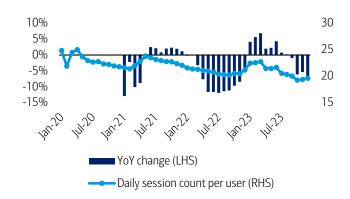


Source: Sensor Tower

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Exhibit 60: Instagram - Average sessions per user per day

It was 19.6 per day, down 7.3% YoY in Dec

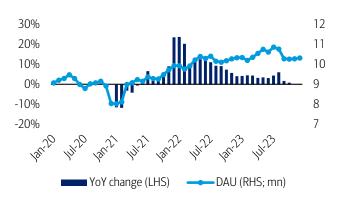


Source: Sensor Tower

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Exhibit 62: Instagram - DAU (monthly)

It was 10.3mn, down 0.1% YoY in Dec



Source: Sensor Tower

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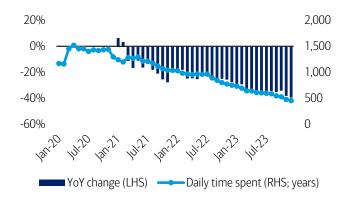


Source: Sensor Tower

Facebook down 39% in Dec

Exhibit 63: Facebook - Total time spent per day (years)

It was 455 years, down 39.4% YoY in Dec

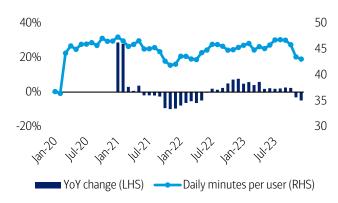


Source: Sensor Tower

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Exhibit 65: Facebook - Average time spent per user per day (mins)

It was 43 minutes per day, down 4.9% YoY in Dec

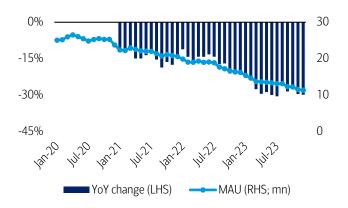


Source: Sensor Tower

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Exhibit 67: Facebook - MAU (monthly)

It was 11.4mn, down 29.9% YoY in Dec

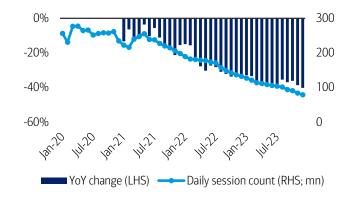


Source: Sensor Tower

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Exhibit 64: Facebook - Total sessions per day (mn sessions)

It was 79mn years, down 40.2% YoY in Dec

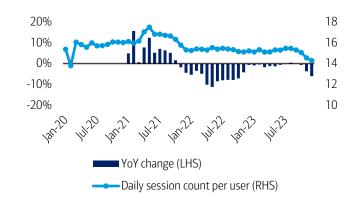


Source: Sensor Tower

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Exhibit 66: Facebook - Average sessions per user per day

It was 14.3 per day, down 6.1% YoY in Dec

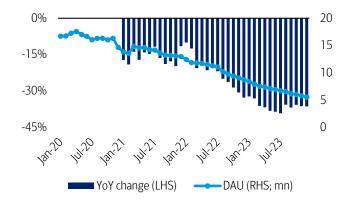


Source: Sensor Tower

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Exhibit 68: Facebook - DAU (monthly)

It was 5.6mn, down 36.3% YoY in Dec



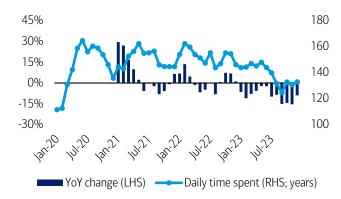
Source: Sensor Tower



X (previously Twitter) down 9% in Dec

Exhibit 69: X (formerly Twitter) - Total time spent per day (years)

It was 133 years, down 9.0% YoY in Dec

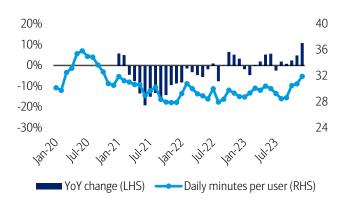


Source: Sensor Tower

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Exhibit 71: X (formerly Twitter) - Average time spent per user per day

It was 32 minutes per day, up 10.8% YoY in Dec

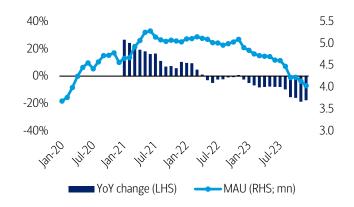


Source: Sensor Tower

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Exhibit 73: X (formerly Twitter) - MAU (monthly)

It was 4.0mn, down 17.8% YoY in Dec

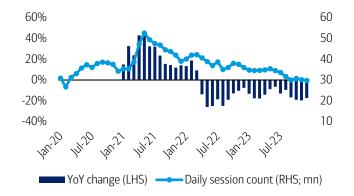


Source: Sensor Tower

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Exhibit 70: X (formerly Twitter) - Total sessions per day (mn sessions)

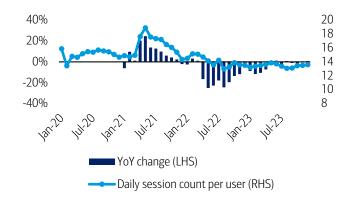
It was 30mn years, down 17.5% YoY in Dec



Source: Sensor Tower

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Exhibit 72: X (formerly Twitter) - Average sessions per user per day It was 13.6 per day, up 0.5% YoY in Dec

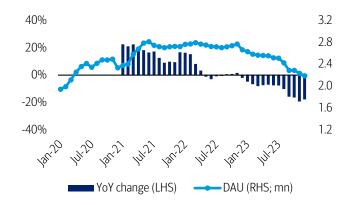


Source: Sensor Tower

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Exhibit 74: X (formerly Twitter) - DAU (monthly)

It was 2.2mn, down 17.9% YoY in Dec



Source: Sensor Tower

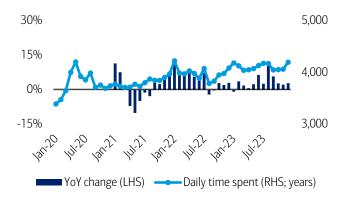


Video - TTS down 1% YoY in 4Q23

YouTube up 3% in Dec

Exhibit 75: YouTube - Total time spent per day (years)

It was 4,191 years, up 2.7% YoY in Dec

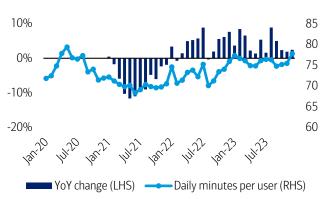


Source: Sensor Tower

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Exhibit 77: YouTube - Average time spent per user per day (mins)

It was 78 minutes per day, up 2.4% YoY in Dec

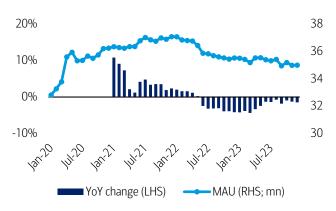


Source: Sensor Tower

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Exhibit 79: YouTube - MAU (monthly)

It was 35.0mn, down 1.5% YoY in Dec

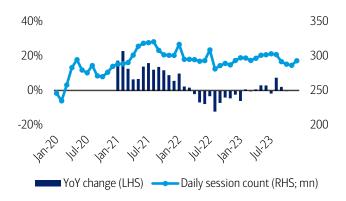


Source: Sensor Tower

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Exhibit 76: YouTube - Total sessions per day (mn sessions)

It was 293mn years, down 0.1% YoY in Dec

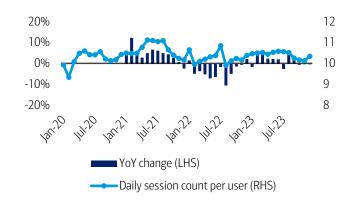


Source: Sensor Tower

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Exhibit 78: YouTube - Average sessions per user per day

It was 10.3 per day, down 0.4% YoY in Dec

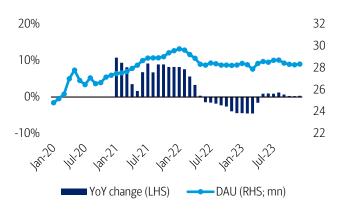


Source: Sensor Tower

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Exhibit 80: YouTube - DAU (monthly)

It was 28.3mn, up 0.3% YoY in Dec



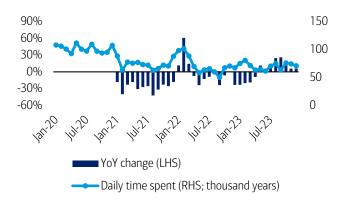
Source: Sensor Tower



AfreecaTV up 6% in Dec

Exhibit 81: AfreecaTV - Total time spent per day (years)

It was 71 years, up 5.5% YoY in Dec

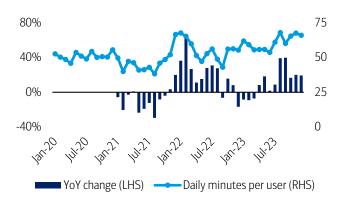


Source: Sensor Tower

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Exhibit 83: AfreecaTV - Average time spent per user per day (mins)

It was 66 minutes per day, up 19.3% YoY in Dec

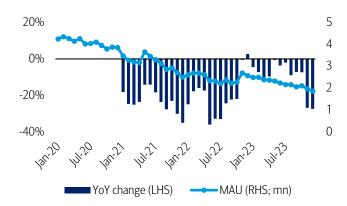


Source: Sensor Tower

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Exhibit 85: AfreecaTV - MAU (monthly)

It was 1.9mn, down 27.4% YoY in Dec

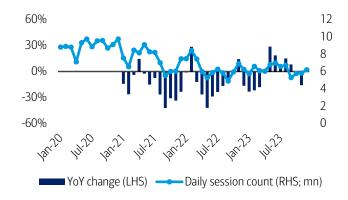


Source: Sensor Tower

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Exhibit 82: AfreecaTV - Total sessions per day (mn sessions)

It was 6mn years, down 0.5% YoY in Dec

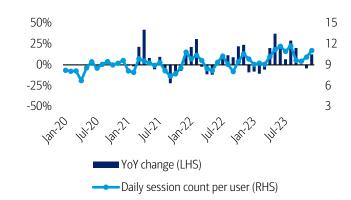


Source: Sensor Tower

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Exhibit 84: AfreecaTV - Average sessions per user per day

It was 11.0 per day, up 12.4% YoY in Dec

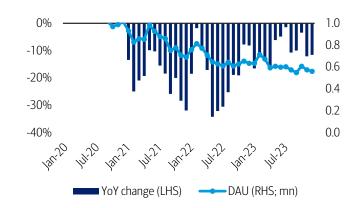


Source: Sensor Tower

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Exhibit 86: AfreecaTV - DAU (monthly)

It was 0.6mn, down 11.5% YoY in Dec



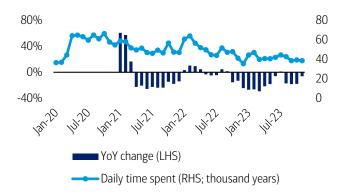
Source: Sensor Tower



Twitch up 14% in Dec

Exhibit 87: Twitch - Total time spent per day (years)

It was 40 years, up 14.4% YoY in Dec

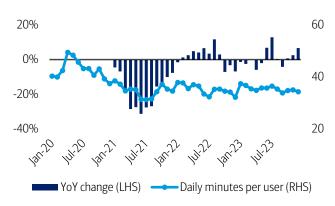


Source: Sensor Tower

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Exhibit 89: Twitch - Average time spent per user per day (mins)

It was 34 minutes per day, up 6.6% YoY in Dec

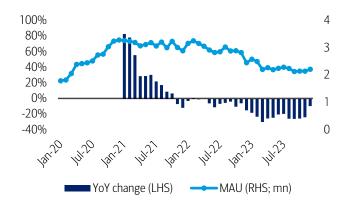


Source: Sensor Tower

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Exhibit 91: Twitch - MAU (monthly)

It was 2.2mn, down 9.7% YoY in Dec

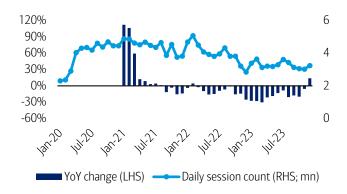


 $\textbf{Source:} \, \mathsf{Sensor} \, \mathsf{Tower} \,$

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Exhibit 88: Twitch - Total sessions per day (mn sessions)

It was 3mn years, up 13.7% YoY in Dec

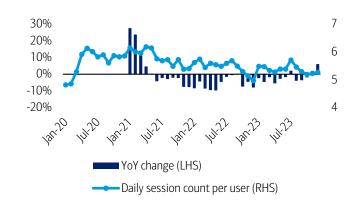


Source: Sensor Tower

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Exhibit 90: Twitch - Average sessions per user per day

It was 5.3 per day, up 6.0% YoY in Dec

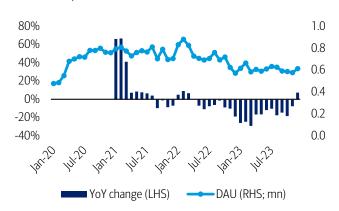


Source: Sensor Tower

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Exhibit 92: Twitch - DAU (monthly)

It was 0.6mn, up 7.3% YoY in Dec



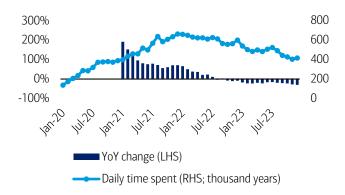
Source: Sensor Tower



TikTok down 31% in Dec

Exhibit 93: TikTok - Total time spent per day (years)

It was 415 years, down 30.7% YoY in Dec

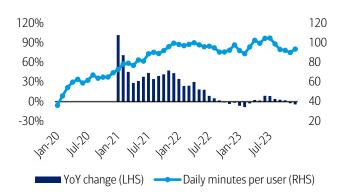


Source: Sensor Tower

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Exhibit 95: TikTok - Average time spent per user per day (mins)

It was 94 minutes per day, down 4.3% YoY in Dec

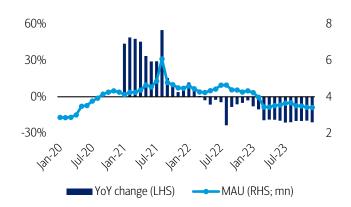


Source: Sensor Tower

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Exhibit 97: TikTok - MAU (monthly)

It was 3.4mn, down 21.1% YoY in Dec

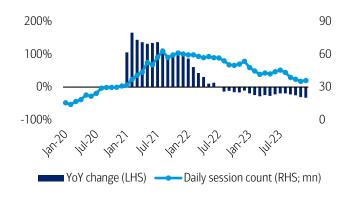


Source: Sensor Tower

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Exhibit 94: TikTok - Total sessions per day (mn sessions)

It was 36mn years, down 32.9% YoY in Dec

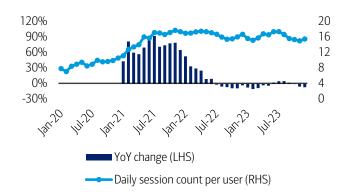


Source: Sensor Tower

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Exhibit 96: TikTok - Average sessions per user per day

It was 15.4 per day, down 7.4% YoY in Dec

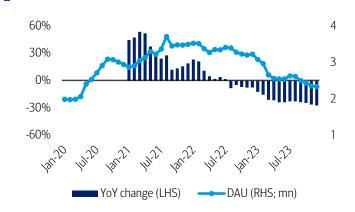


Source: Sensor Tower

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Exhibit 98: TikTok - DAU (monthly)

It was 2.3mn, down 27.6% YoY in Dec



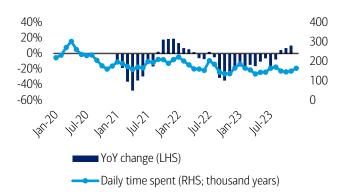
Source: Sensor Tower



Netflix down 1% in Dec

Exhibit 99: Netflix - Total time spent per day (years)

It was 164 years, down 0.7% YoY in Dec

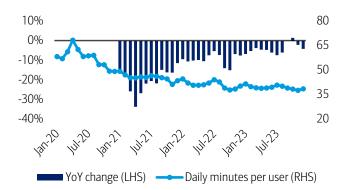


Source: Sensor Tower

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Exhibit 101: Netflix - Average time spent per user per day (mins)

It was 38 minutes per day, down 4.2% YoY in Dec

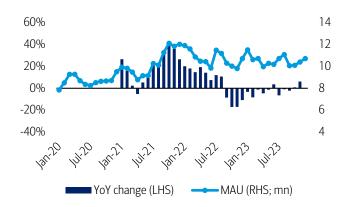


Source: Sensor Tower

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Exhibit 103: Netflix - MAU (monthly)

It was 10.7mn, flat YoY in Dec

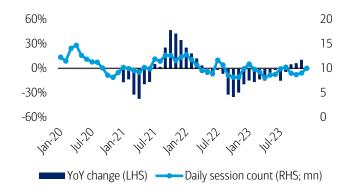


Source: Sensor Tower

BofA GLOBAL RESEARCH

Exhibit 100: Netflix - Total sessions per day (mn sessions)

It was 10mn years, up 1.1% YoY in Dec

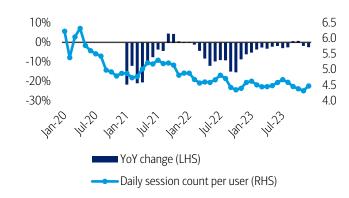


Source: Sensor Tower

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Exhibit 102: Netflix - Average sessions per user per day

It was 4.5 per day, down 2.5% YoY in Dec

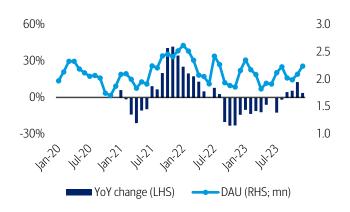


Source: Sensor Tower

BofA GLOBAL RESEARCH

Exhibit 104: Netflix - DAU (monthly)

It was 2.2mn, up 3.7% YoY in Dec



Source: Sensor Tower

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