

NYUxLVMH

DABC Capstone Final Presentation

Rachel Yu, Sienna Qin, Olivia Jones, Allen Wang

April 30, 2026

Meet the Team



Rachel Yu

Los Angeles, CA

DABC Class of 2026



Sienna Qin

West Hartford, CT

DABC Class of 2026



Olivia Jones

Fairfax, VA

DABC Class of 2026



Allen Wang

Shanghai, CHN

DABC Class of 2026

NYU

Introduction

01

NYU

Background Information

Business problem

In Xiaohongshu's integrated content-commerce ecosystem, brands lack a data-driven understanding of how specific content features translate into both attention *and* conversion.



Solution

- Build a **multimodal (image, text, video) analytics framework** to decode content performance
- Identify which content elements drive **visibility** and **intent**
- Translate insights into **clear, actionable content guidelines** for brands

NYU

Pain Point Analysis

Unclear Drivers of Content Performance

- Clear visibility into performance metrics
- No visibility into *why* content performs well
- Hard to translate performance into repeatable strategy

Inefficient Manual Analysis

- Human benchmarking is slow and subjective.
- Difficult to maintain consistently across categories.

Traditional Model Limitation

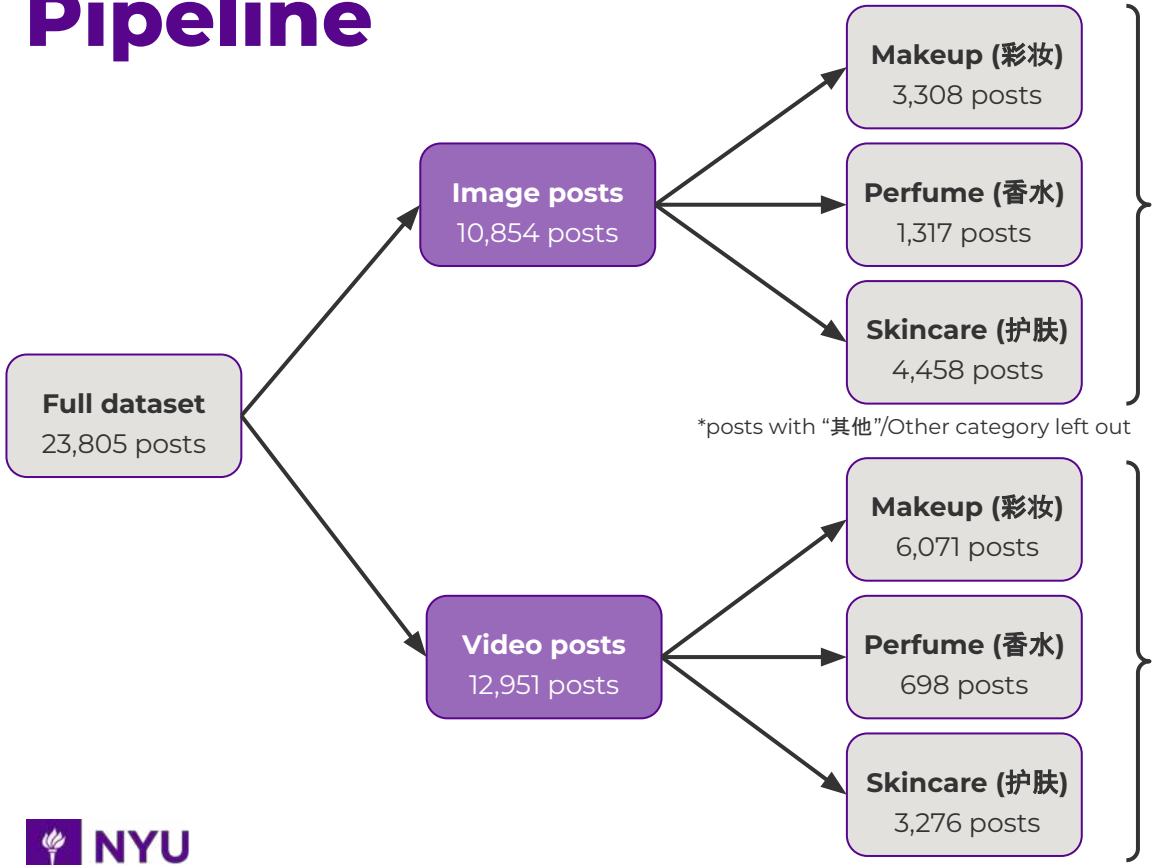
- Xiaohongshu content combines multi-model information.
- Many existing tools only analyze one layer of content.

Engagement ≠ Commercial Impact

- High visibility does not automatically translate into business value.
- Brands need a framework that connects attention with action.

NYU

Pipeline



Analysis Methods

- Post Time
- Text (Title + Caption)
- Hashtags + Mentions
- Visual Clusters

- Post Time
- Text (Title + Caption)
- Hashtags + Mentions
- Visual Embeddings (ML)
- LLM-Derived Features
- ASR Transcripts

NYU

Our Method: AI Multimodal Analysis

Data Ingestion	Feature Engineering	Analysis	Creative Bundling	Insights + Generations
Data Cleaning	Automatic Speech Recognition **(ASR) transcripts**	Statistical Correlations	Network based on co-occurences	Final Content Recommendations
Basic Metadata	Prompt Engineering → **LLM-derived features**	Keyword Analysis	Community Detection (Greedy Modularity)	AI Generation
Exploratory Data Analysis (EDA)	**Text-derived features** (captions, titles, hashtags, mentions)	LDA Topic Modeling	Mutual Exclusitivity	
Splitting by media type, category, and peformance	**Additional features** (post time, video length, visual embeddings, etc.)	Visual Clustering (ViT)		
		Feature Importance (Random Forest)		

NYU

High Level Trends

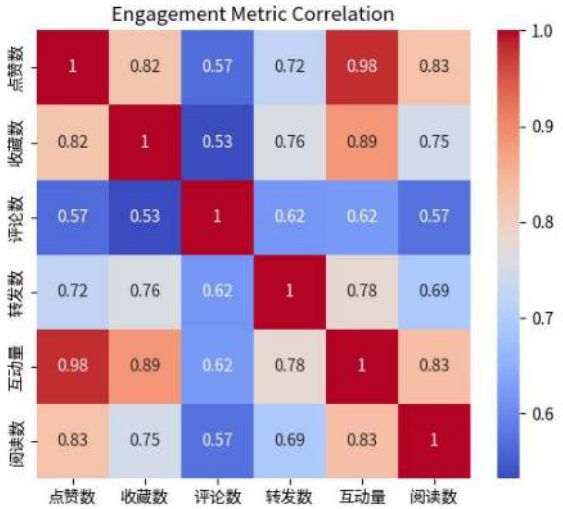
02

NYU

Likes & saves are engagement metrics

Engagement Metric	Mean	Median
Views (阅读数)	213,326	35,800
Likes (点赞数)	2744	1259
Saves (收藏数)	794	294
Comments (评论数)	132	49
Shares (转发数)	131	33
Interactions (互动量)	3801	1751

Engagement funnel: **Likes → Saves → Comments/Shares**



Likes (点赞数)

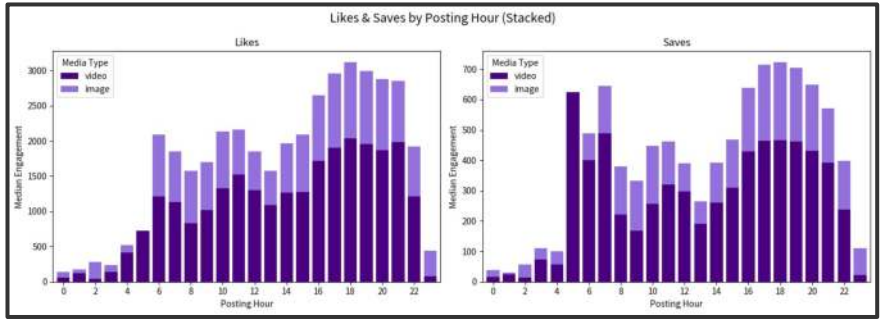
Broad audience approval
Overall popularity

Saves (收藏数)

Strong interest or usefulness
Revisit or reference

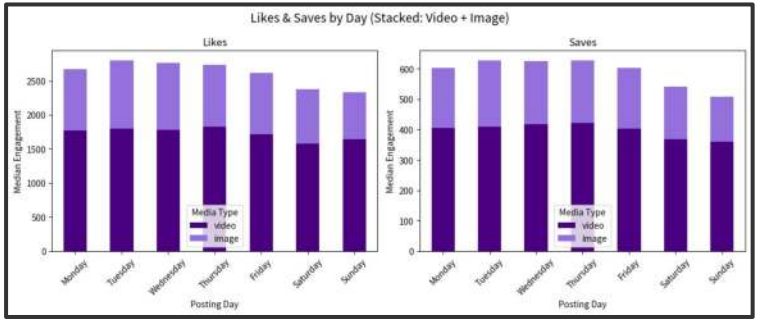
NYU

Prioritize posting at weekday evenings



Posting Hour

*early morning spikes are low-volume artifacts



Posting Day of the Week

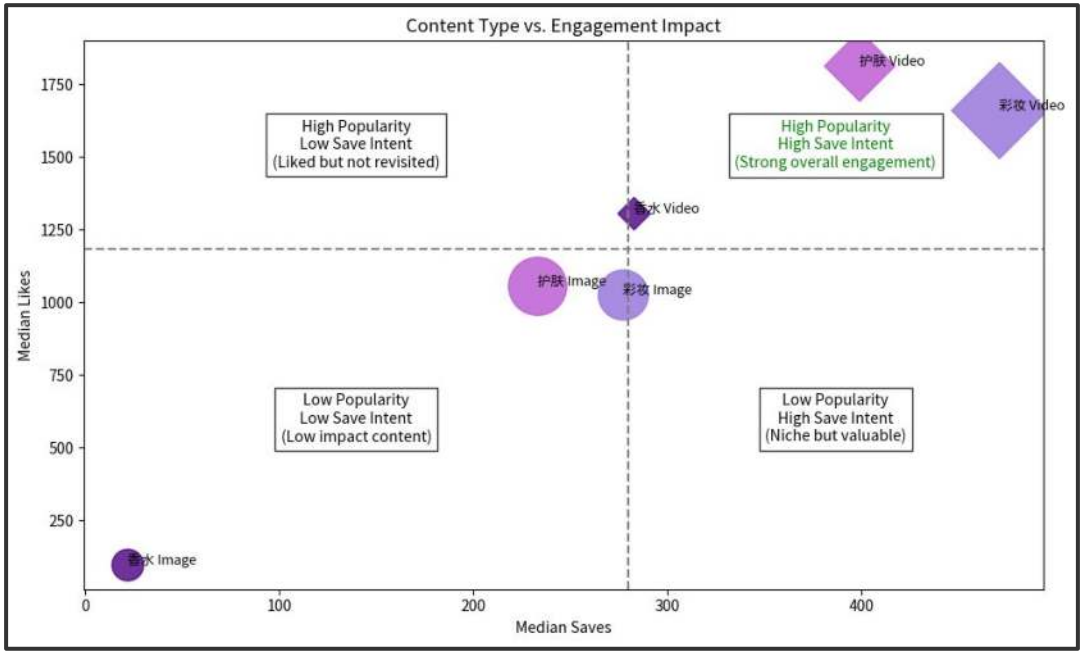
Prioritize **Tues/Wed evenings (4–9pm)** for peak engagement

BUT...

What you post is more important than when you post it

NYU

Videos perform better than images

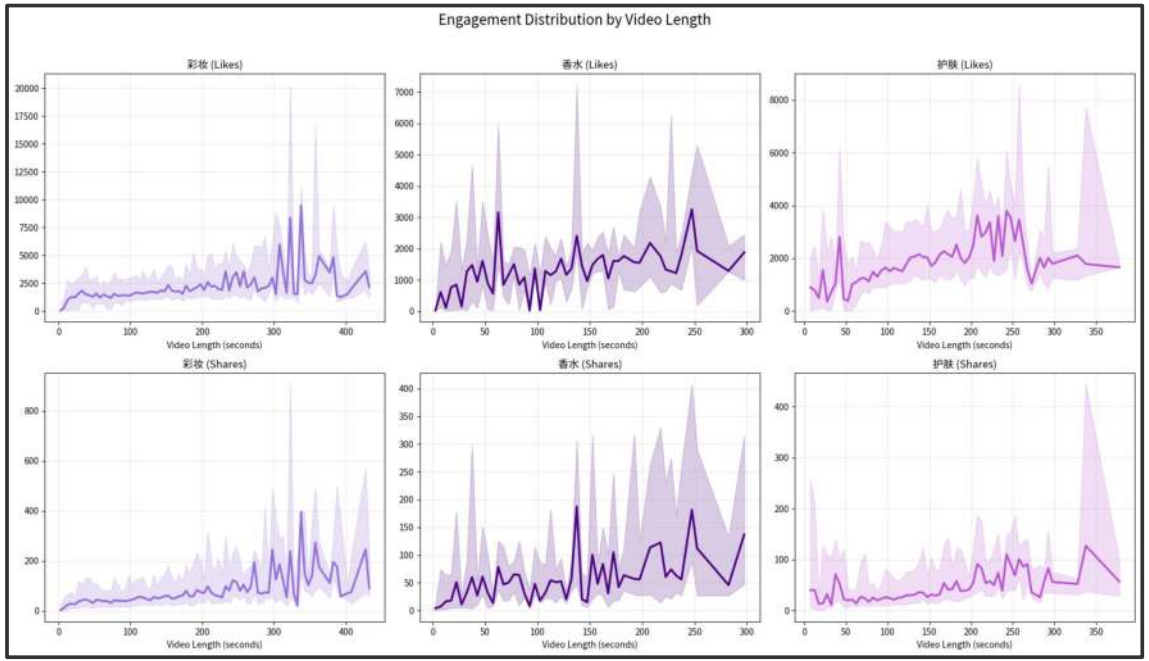


Prioritize a **video-first** strategy across categories

Length drives upside, not consistency

Likes

Shares



Video length is not a primary driver and instead, focus on content quality and type

NYU

Perfume

03

NYU

Pipeline

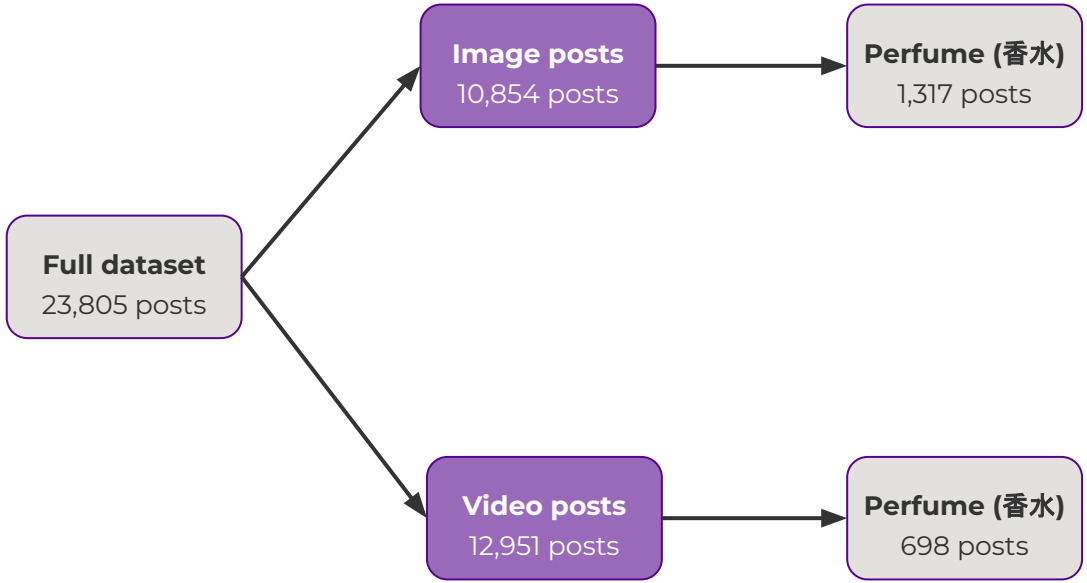
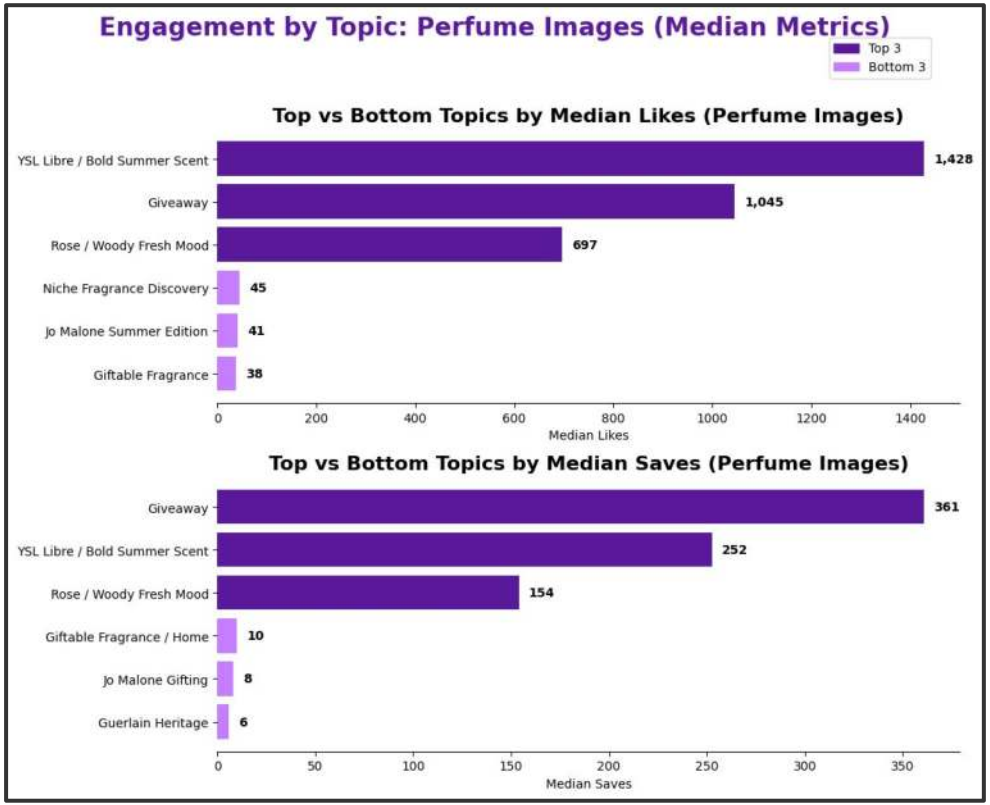

Full dataset
23,805 posts
Image posts
10,854 posts
Perfume (香水)
1,317 posts
Video posts
12,951 posts
Perfume (香水)
698 posts

Image Caption Performance



Top Keywords

香水 (Fragrance)
3817 occurrences

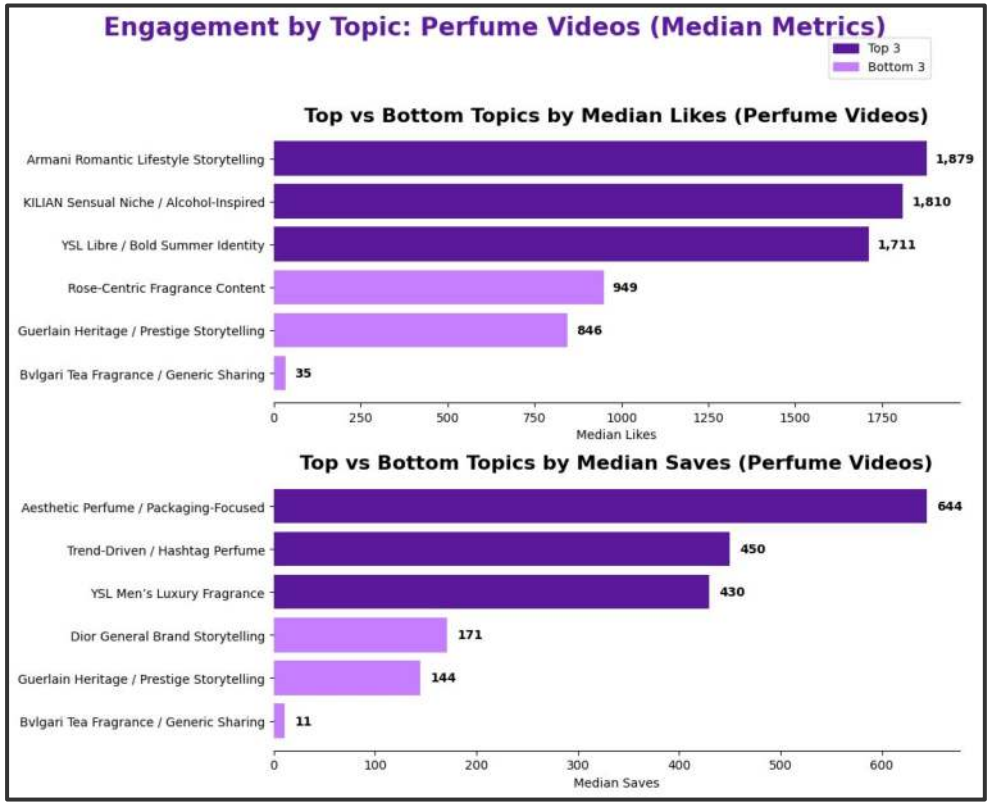
香(Scent)
2304 occurrences

调(Notes)
1318 occurrences

娇兰(Guerlain)
1032 occurrences

帕尔玛(Acqua Di Parma)
801 occurrences

Video Caption Performance



Top Keywords

香水 (Fragrance)
2593 occurrences

香(Scent)
1276 occurrences

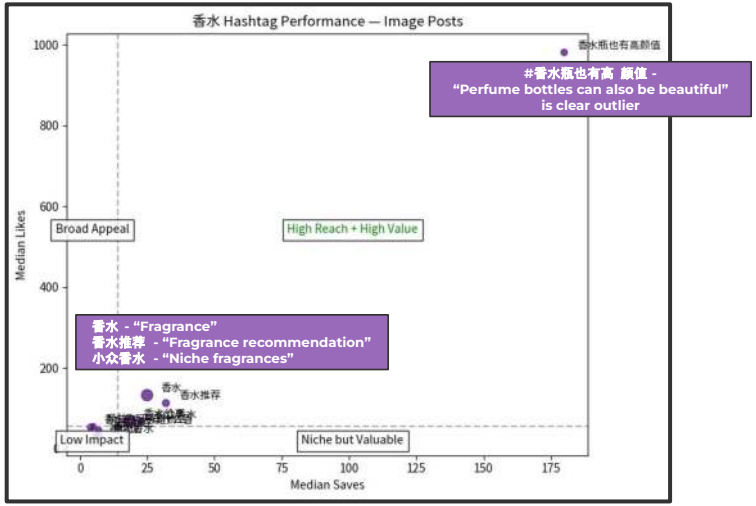
娇兰(Guerlain)
492 occurrences

感(Feel)
391 occurrences

调(Notes)
370 occurrences

Hashtag (#) Performance

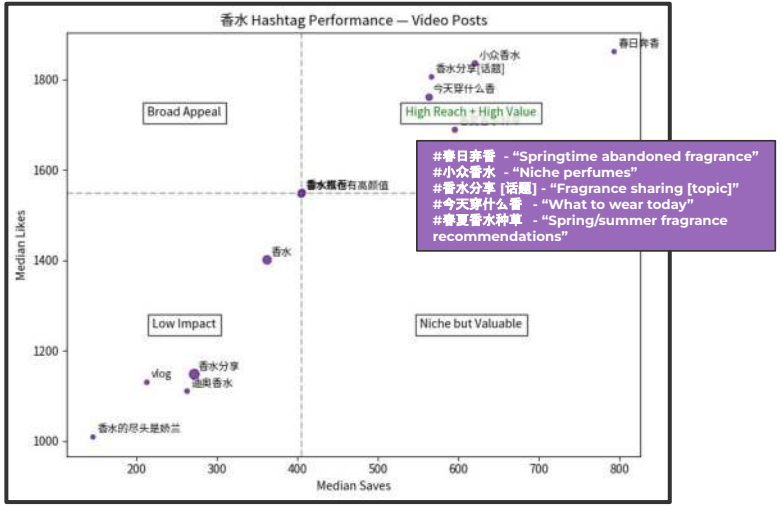
Images



Prioritize visually striking, **bottle-focused content**

Use descriptive, **bottle-focused tags** instead of broad fragrance tags

Videos

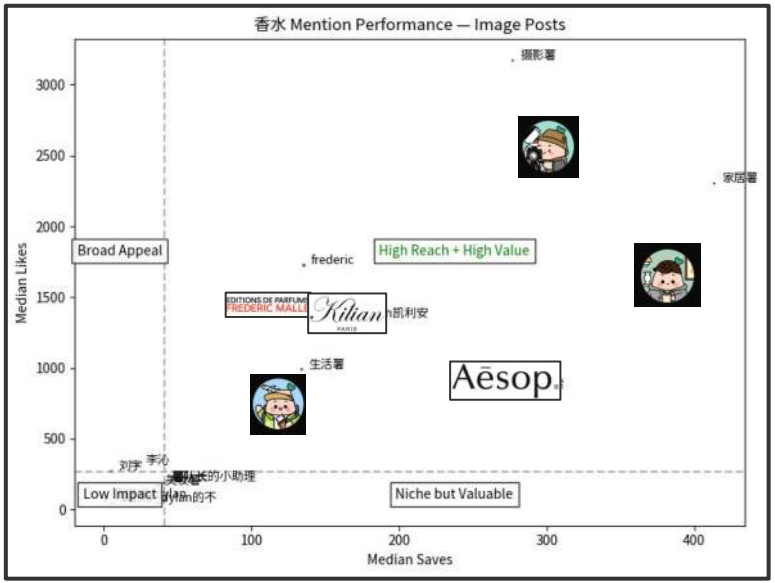


Videos allow for **storytelling** but users respond best to content tied to **occasion, mood, or curation**

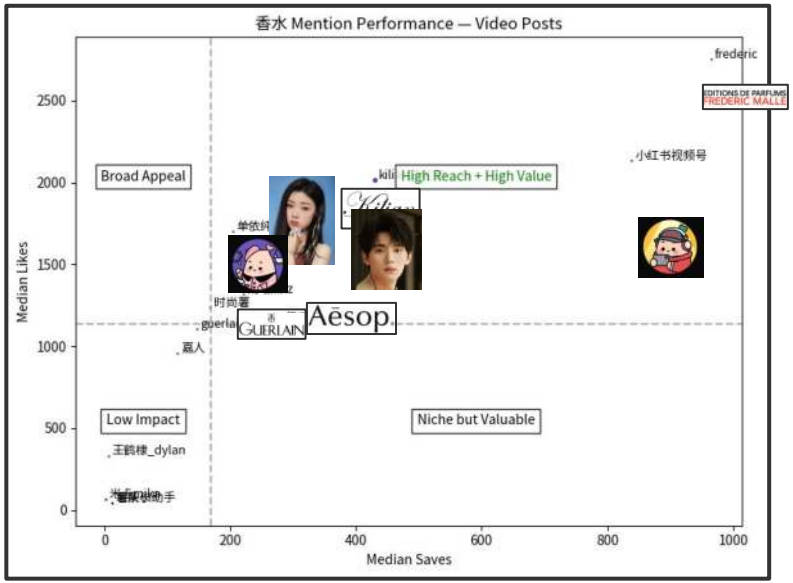
Use **specific intent tags**

NYU

Tags/Mentions (@) Performance

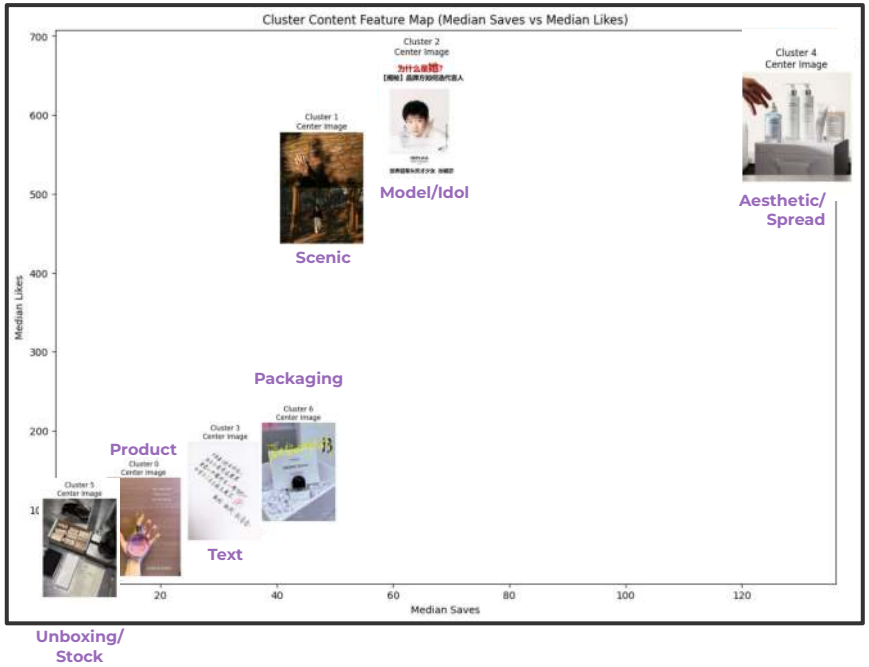


Images



Videos

Visual Image Clusters



Use **aesthetic product spreads** to drive **likes** and **saves**

Use **scenic shots** and **idols** to drive engagement

Video Feature Importance

Versatile / all-day usage	1.0%
Relatable friend reviewer persona	1.0%
Casual/comfy clothing style	0.9%
Medium video pacing	0.9%
Casual conversational voice style	0.8%
Simple editing (basic cuts)	0.8%
Clean & aesthetic background	0.7%
Calm/soothing tone	0.7%

Likes

Excited/enthusiastic tone	2.5%
No specified scent-season association	1.6%
Outdoor setting	1.6%
Calm/soothing tone	1.5%
Soft warm indoor lighting style	1.4%
1 product focus	1.3%
Enthusiastic/high-energy voice style	1.3%
No voice	1.2%

Saves

NYU

Video Content Bundles

Aesthetic Shots

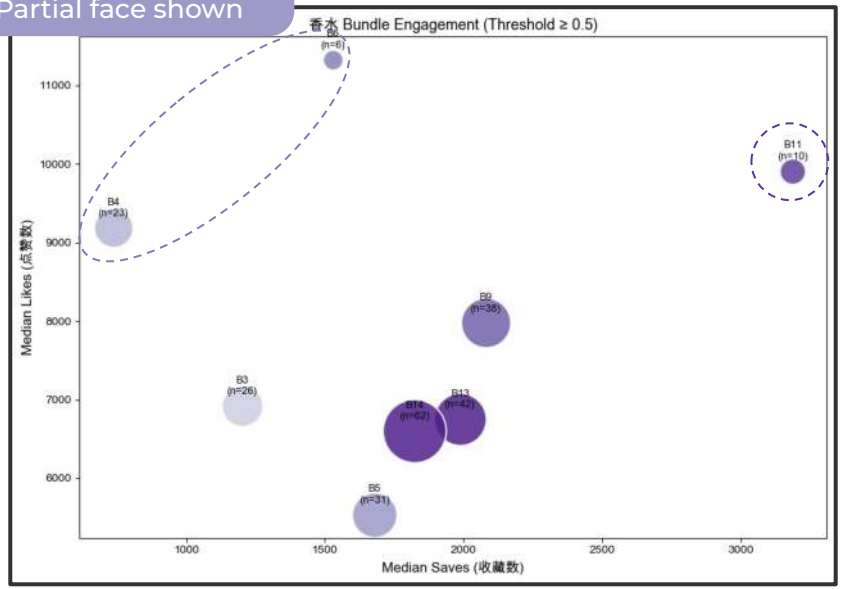
- Slow pacing
- Product application shown
- Partial face shown



Cinematic

- No voice
- Aesthetic creator
- Natural daylight
- Cinematic motion
- Outdoors





Professional Review

- Expert review
- Professional clothing style



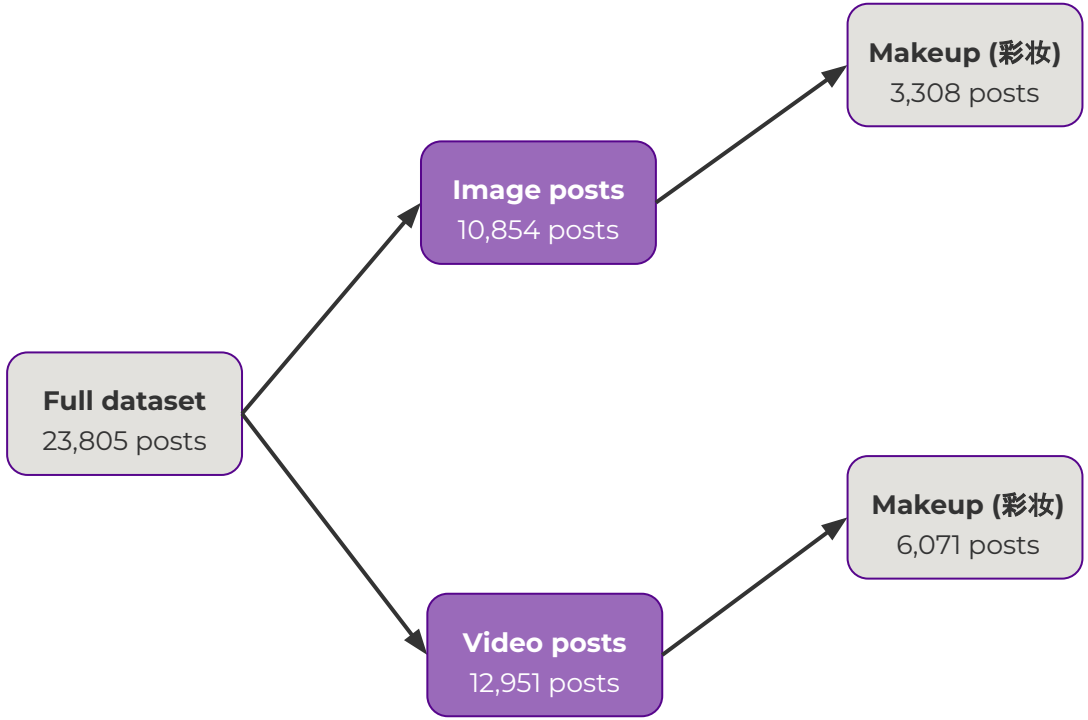
NYU

Makeup

04

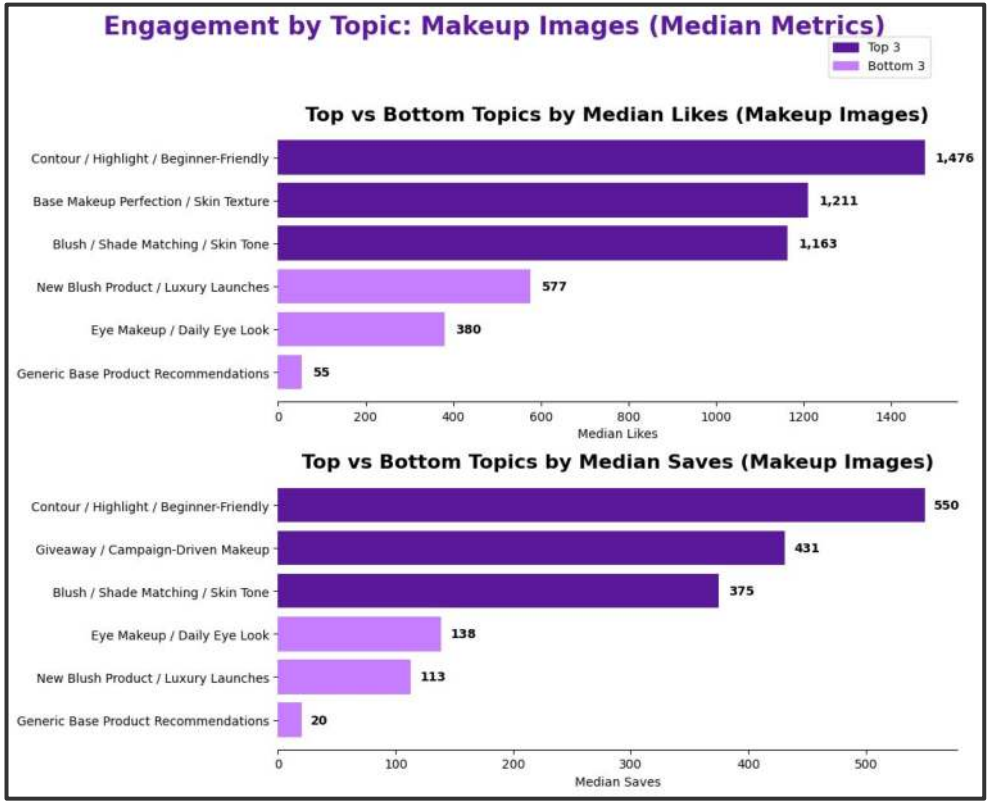
NYU

Makeup


Full dataset
23,805 posts
Image posts
10,854 posts
Video posts
12,951 posts
Makeup (彩妆)
3,308 posts
Makeup (彩妆)
6,071 posts

NYU

Image Caption Performance



Top Keywords

妆 (Makeup)
6596 occurrences

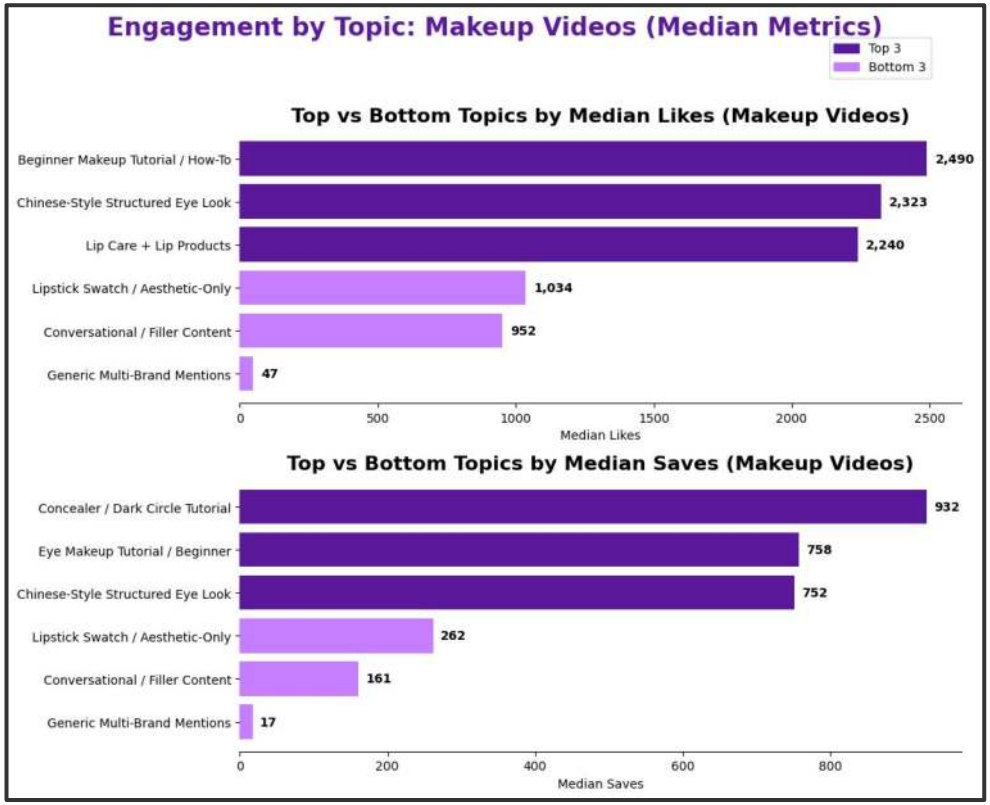
感 (Feel)
4049 occurrences

粉 (Powder)
3656 occurrences

□ (Color)
3513 occurrences

唇 (Lip)
3235 occurrences

Video Caption Performance



Top Keywords

妆 (Makeup)
11131 occurrences

妆容 (Makeup Look)
5260 occurrences

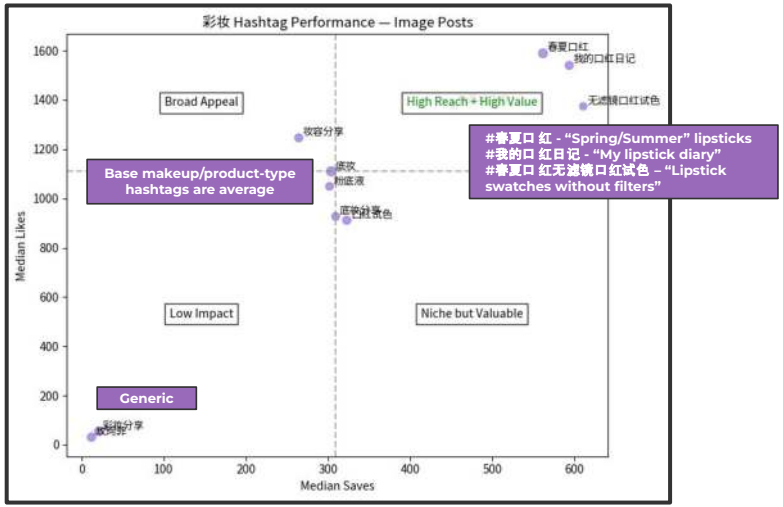
唇 (Lip)
4713 occurrences

□ (Color)
4427 occurrences

□红 (Lipstick)
4145 occurrences

Hashtag (#) Performance

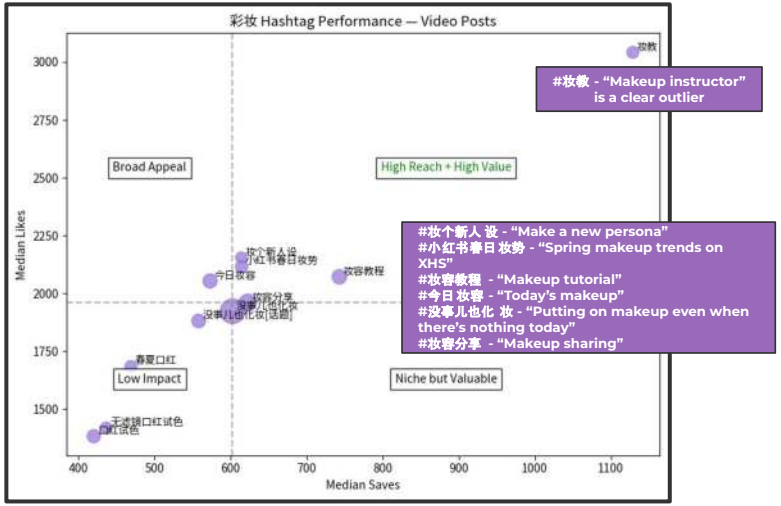
Images



Prioritize **visual inspiration** over education

Use **specific, aesthetic-driven tags** to boost engagement

Videos



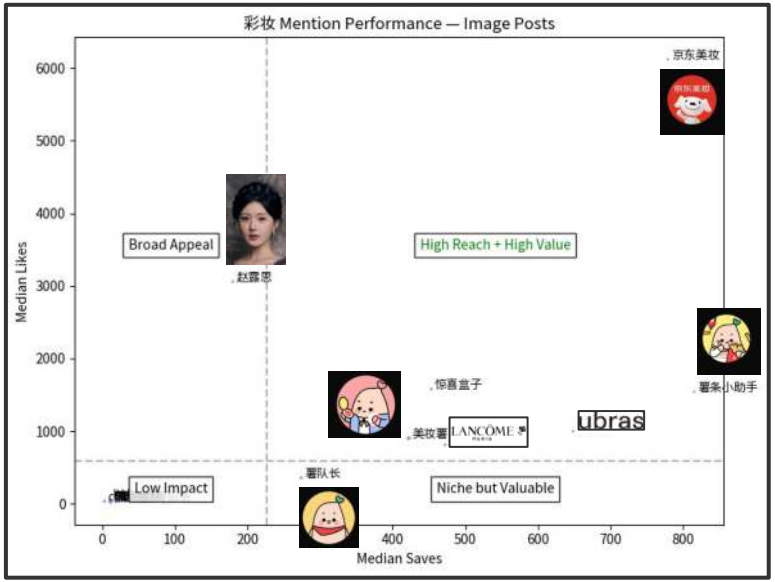
Prioritize **tutorial-first** content

Use **everyday, instruction-based tags** to boost engagement

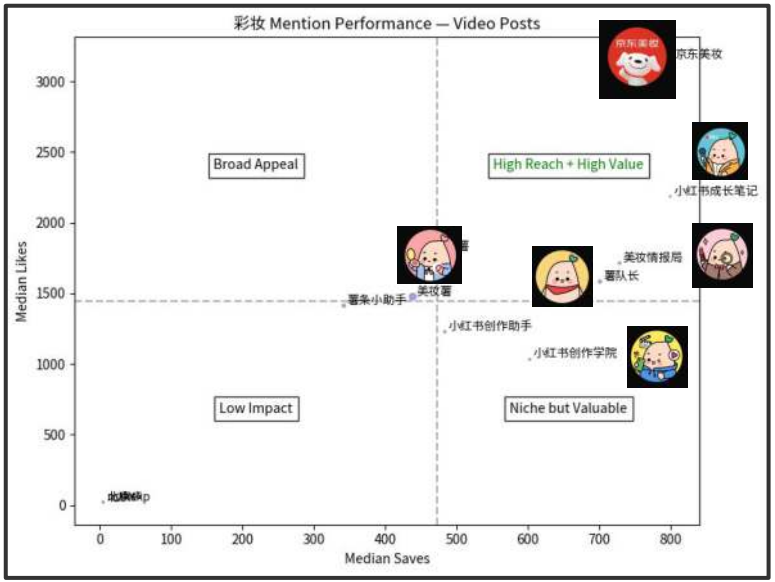
NYU

Tags/Mentions (@) Performance

JOOCYEE
*outlier (not shown in plot)



Images



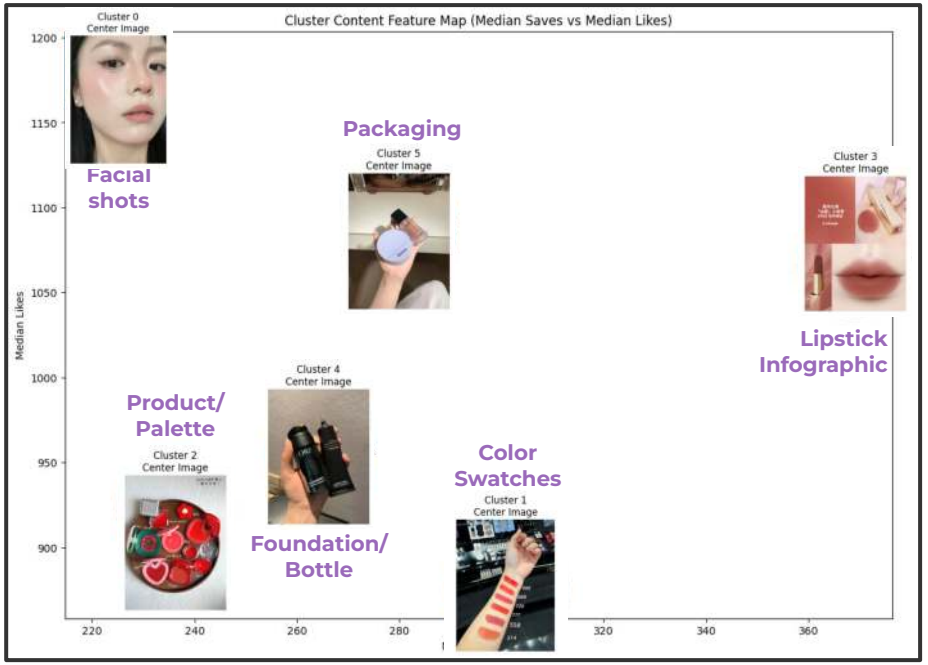
Videos

Prioritize mentions of **verified, niche XHS beauty accounts**

Platform-native credibility drives higher reach + saves

NYU

Visual Image Clusters



Use **facial/try-on content** to drive **likes** and engagement

Use **lipstick infographics** to drive **saves** and inspiration

Video Feature Importance

Honest/balanced emotional tone	10.3%
Beauty-only lifestyle integration	6.5%
25-50% of video spent on application	4.7%
Education/technique-focused review	4.7%
2+ products shown	4.3%
Effortless vibe sold	4.3%
Functional/standard packaging (basic, utilitarian, no emphasis)	4.0%
2-3 performance claims stated	3.3%

Likes

Honest/balanced emotional tone	16.2%
Calm/soothing emotional tone	12.9%
Full lifestyle integration	11.5%
Beauty-only lifestyle integration	10.2%
Education/technique-focused review	4.7%
Bedroom/vanity filming location	4.3%
Honest review with pros and cons	3.0%
4+ camera zoom-ins/close up moments	2.4%

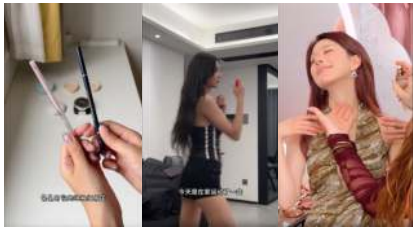
Saves

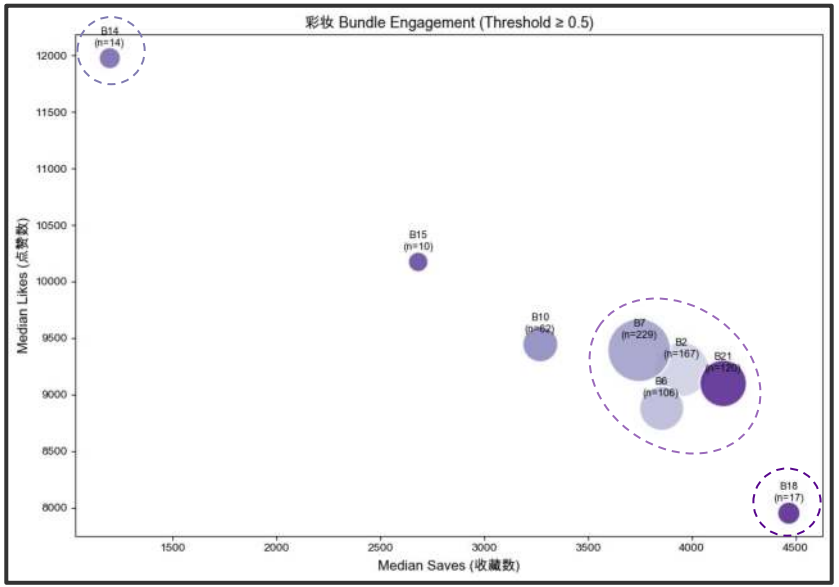
NYU

Video Content Bundles

Everyday Recommendations

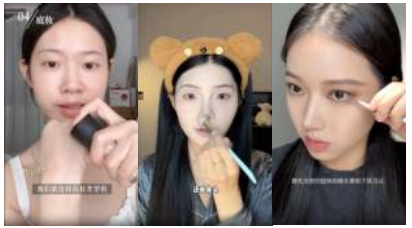
- Other product **pairing** recommendations
- Full **lifestyle** integration





Makeup Tutorials

- Before/after **results**
- Realistic, **personalized**, tailored recommendations
- Full face, camera zoom-ins, application steps



Eye Makeup Tutorials



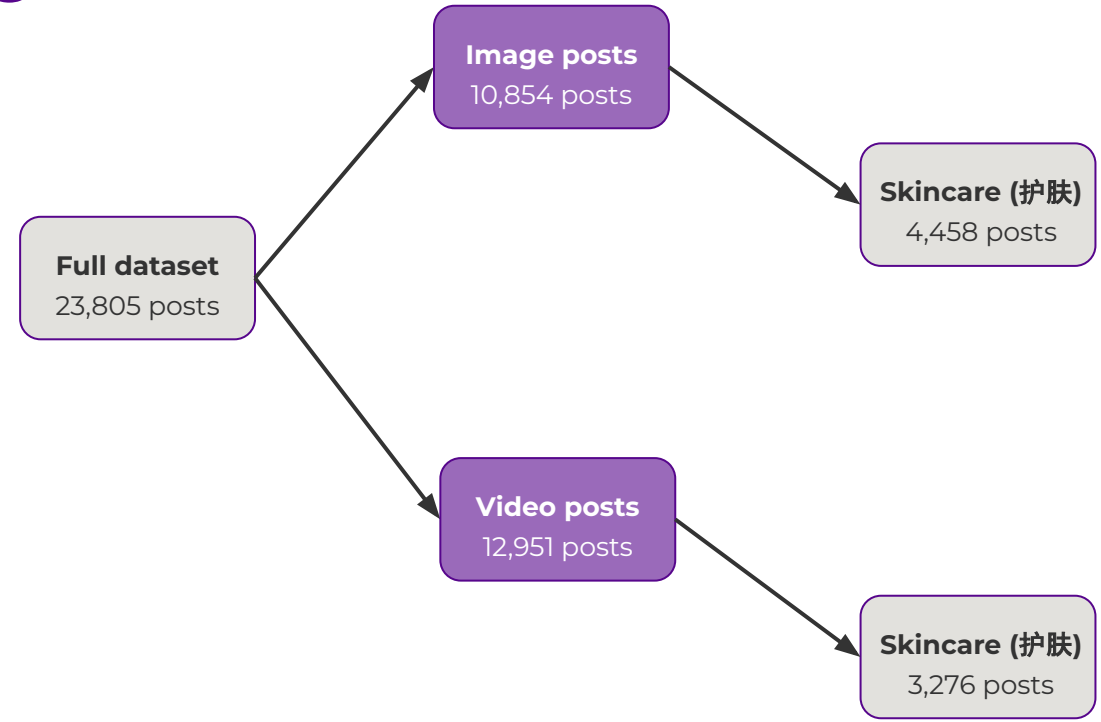
NYU

Skincare

05

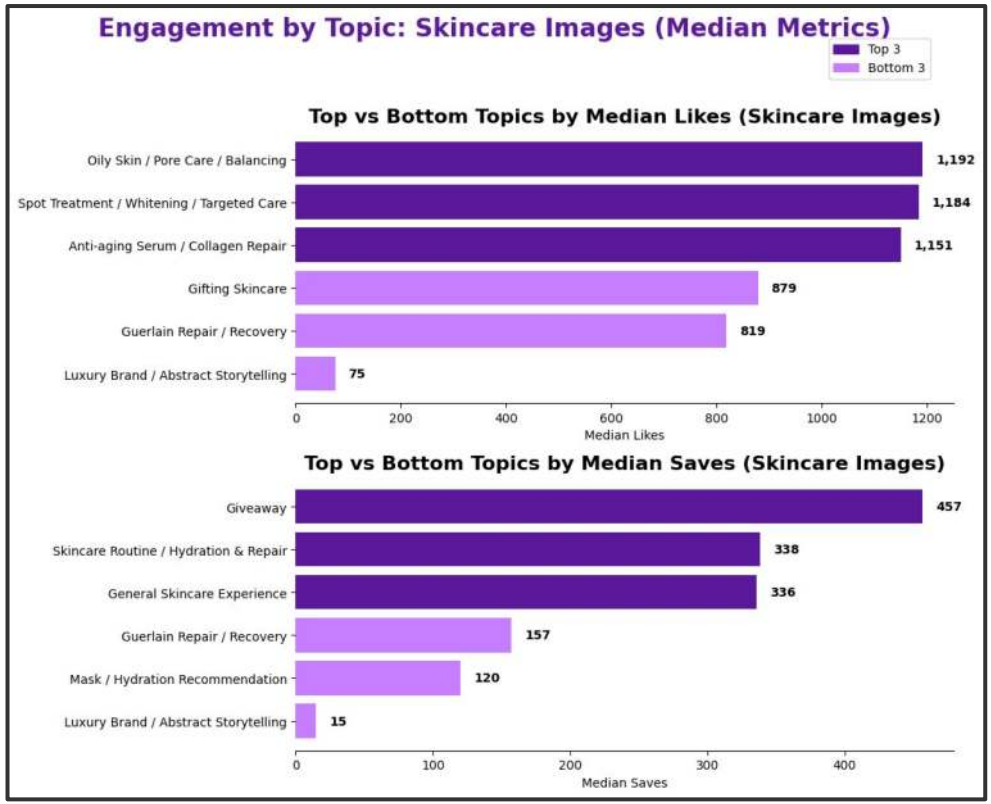
NYU

Pipeline



NYU

Image Caption Performance



Top Keywords

抗 (Anti)
9705 occurrences

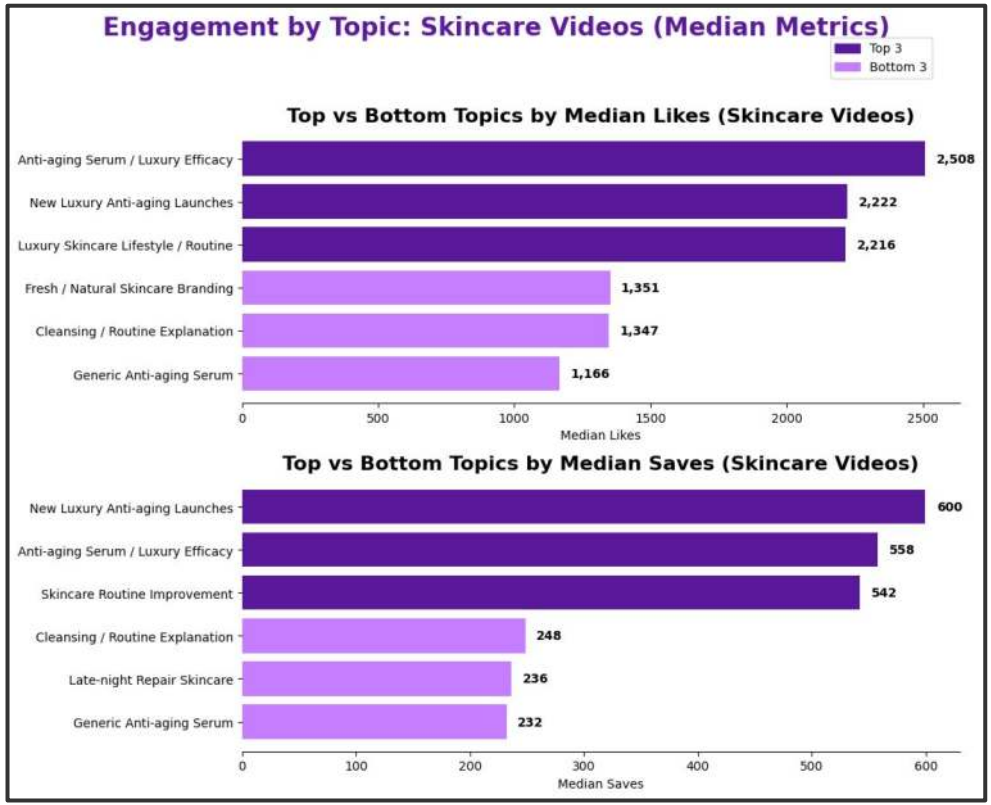
精华 (Serum)
9522 occurrences

□ (Aging)
8976 occurrences

脸 (Face)
8442 occurrences

皮肤 (Skin)
3235 occurrences

Video Caption Performance



Top Keywords

护肤 (Skincare)
3912 occurrences

精华 (Serum)
3682 occurrences

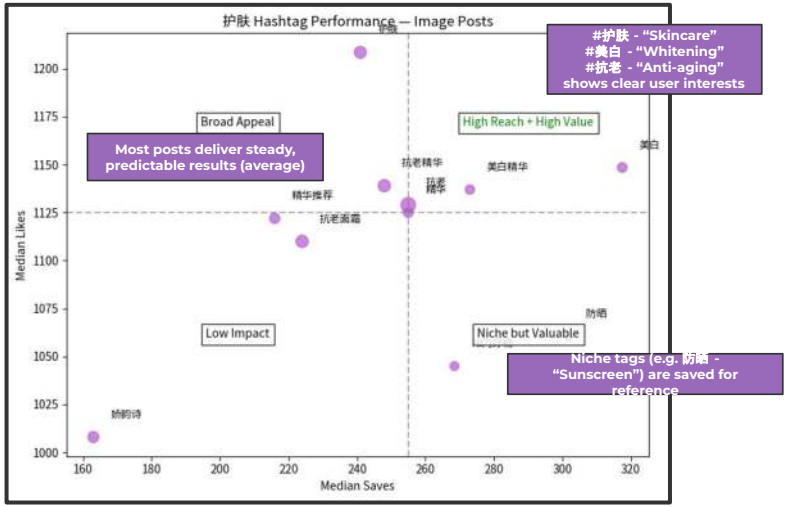
抗 (Anti)
3495 occurrences

□ (Aging)
3432 occurrences

□霜 (Face Cream)
2217 occurrences

Hashtag (#) Performance

Images

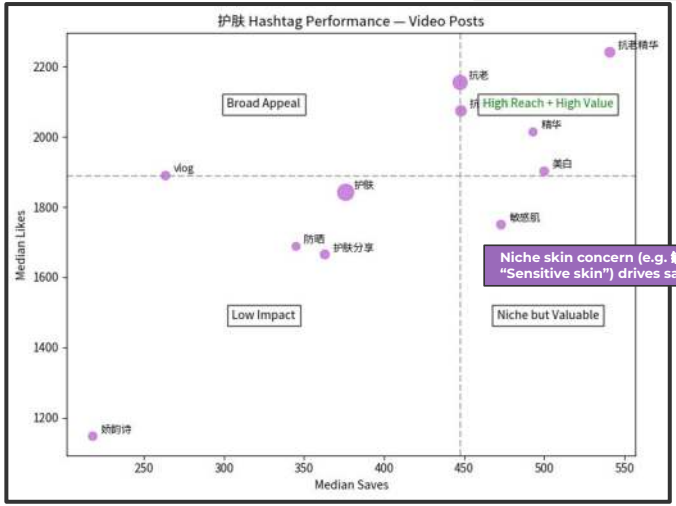


Skincare image content engagement comes from **informational/functional needs**

Use **core intent tags**

Videos

Solution-oriented content are top performers
#抗老精华 - "Anti-aging serum"
#精华 - "Essence"
#美白 - "Whitening"

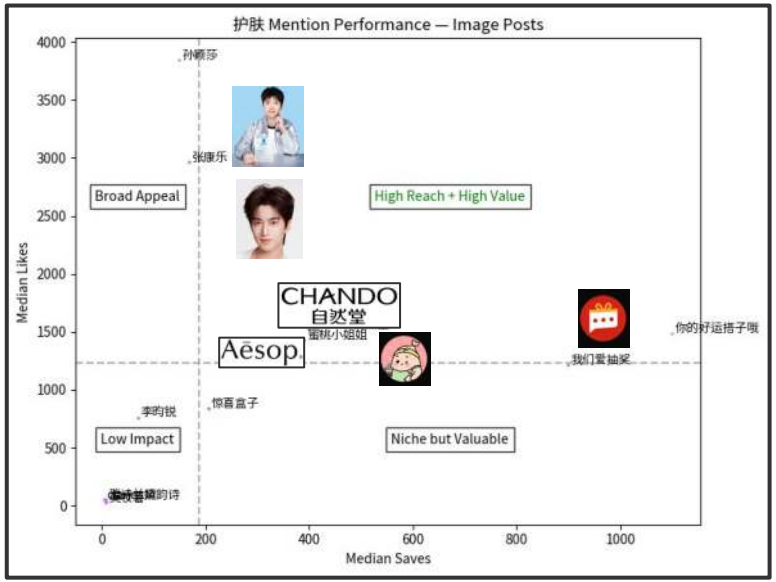


Skincare videos focus on **educational, problem-solving** skincare content

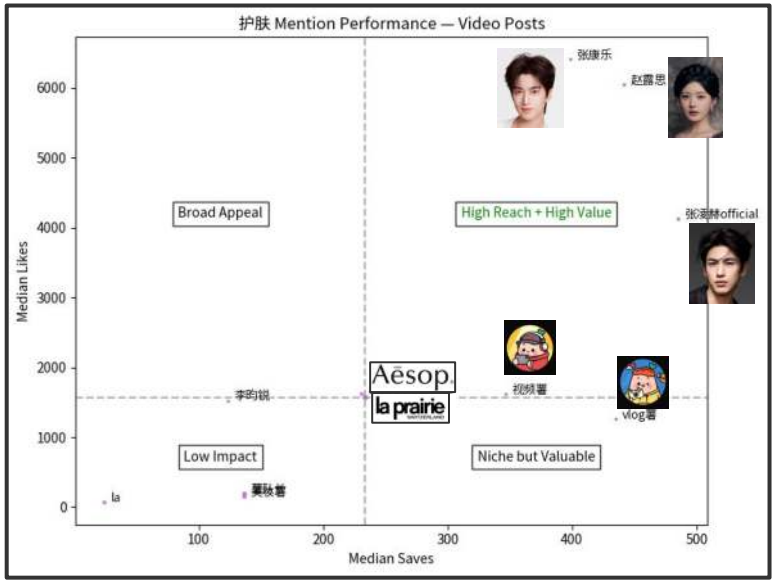
Use **specific, solution-oriented tags**

NYU

Tags/Mentions (@) Performance

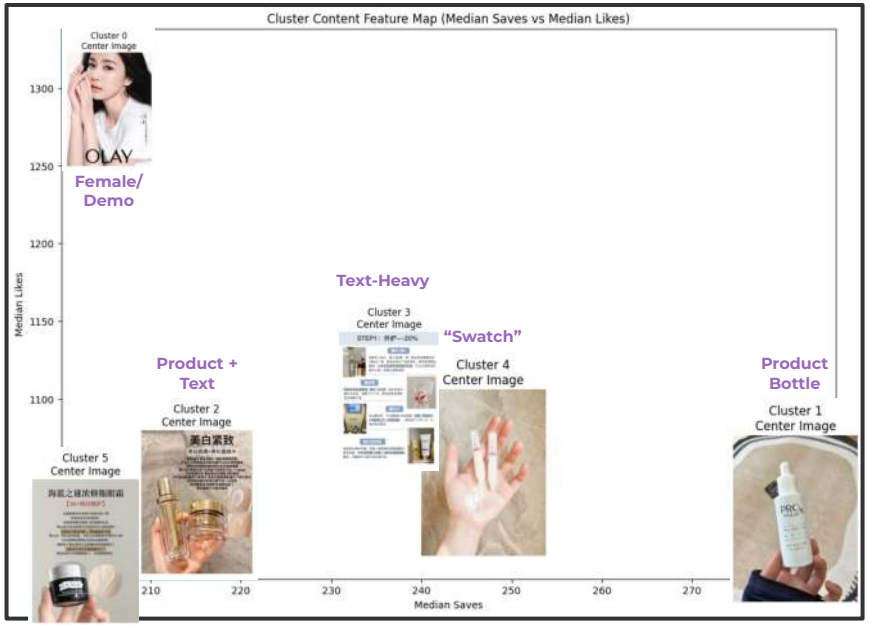


Images



Videos

Visual Image Clusters



Use **facial/demo** to drive **likes** and engagement

Use **product jar shots** to drive **saves** and inspiration

NYU

Video Feature Importance

Product addresses anti-aging/wrinkles	1.7%
Review focuses on ingredients + effects	1.5%
Application texture is somewhat clear	1.3%
Text hook appears in first few seconds	1.2%
Intended skin type not specified	1.0%
Emphasizes/claims fast results	0.8%
Beauty-only integration	0.8%
Casual conversational voice style	0.7%

Likes

Full lifestyle integration	5.7%
Intended skin type not specified	4.6%
Multiple products shown	4.5%
Moderate humor	4.3%
Creator gives high trust > promotion	3.7%
Aesthetic creator persona	3.5%
Heavy brand partnership density	3.0%
Gives high purchase confidence	3.0%

Saves

Video Content Bundles

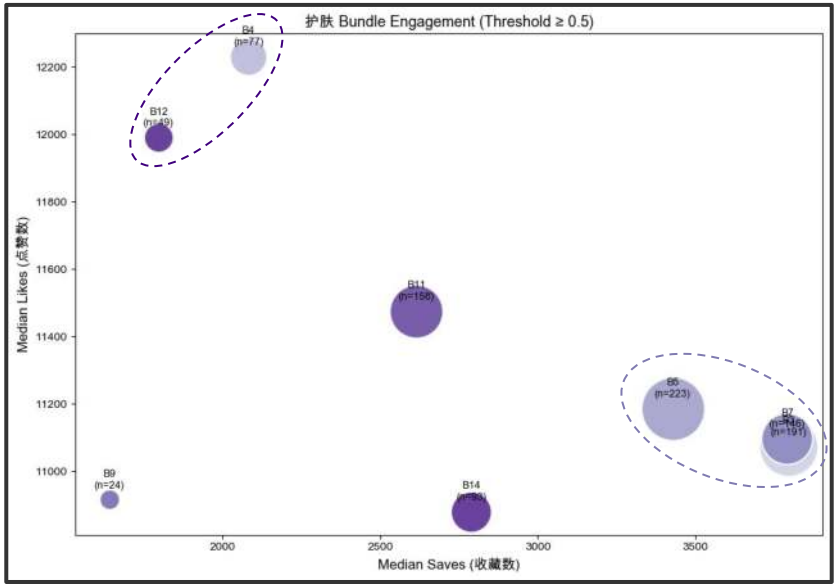




Everyday Recommendations

- Other product pairing recommendations
- Full lifestyle integration
- Little/no results shown





Product Effects

- Pairing (layering) advice
- Routine context
- Results (before → after)
- Specific skin type focus



Final Content Briefs

06

NYU

Perfume

Video only
Timing: Tues-Wed, 4-9pm

Likes
(Engagement/Reach)

Content
Lifestyle storytelling:
· Romantic
· Sensual/Niche
· Bold, Summer Feeling

Execution
· Relatable, unbiased persona
· Casual, conversational voice
· Medium pacing, simple edits

Creative Direction
Cinematic (no voice, natural light, outdoor)
Aesthetic (partial face, slow pacing, subtle application)

Messaging
Keywords: fragrance, scent, notes, feel
Tone: Calm, smooth, emotionally engaging

Additional
· Tag official XHS video + fashion accounts
· Position as versatile/all-day scent

Saves
(Conversion)

Content
· Packaging-focused aesthetic shots
· Trend-driven/hashtag-led
· Men's luxury fragrance

Execution
· 1 product focus
· Mix of:
No-voice aesthetic
High-energy voiceovers

Creative Direction
· Bottle/packaging-focused aesthetic shots
· Trend-driven/hashtag-led
· Men's luxury fragrance

Messaging
Keywords: fragrance, scent, notes, feel
Tone: Energetic (discovery) OR calm (sensory)

Additional
· Professional review bundle (expert tone, comparisons, unbiased, polished styling) → build trust

NYU

Makeup

Video > Image
Timing: Tues-Wed, 4-9pm

Likes
(Engagement/Reach)

Content

Videos
- Tutorials
- Eye looks
- Lip care/prod

Images
- Contour/ highlight
- Base makeup
- Blush shades

Execution
- Application focus
- Multiple products shown
- Multiple performance claims
- Beauty/light lifestyle focus
- Education/technique-led

Creative Direction
- Facial close-ups
- Clean, aesthetic visuals
- Natural, polished finish

Messaging
Keywords: makeup, makeup look, lip, color, powder
Tone: Honest, balanced, slightly emotional

Additional
- Tag official JD + XHS beauty accounts
- Everyday recommendation bundle (product pairings, full routines)

Saves
(Conversion)

Content

Videos
- Concealer tutorials
- Eye looks

Images
- Lipstick infographics
- Shade compare
- Campaign/ giveaway

Execution
- Step-by-step tutorials
- Before → after transformation
- Honest review (pros + cons)
- Personalized/tailored recommendations

Creative Direction
- Bedroom/vanity setting
- Intimate, real-life environment
- Facial close-ups / zoom-ins

Messaging
Keywords: makeup, makeup look, lipstick, color
Tone: Calm, honest, slightly soothing

Additional
- Tag official JD + XHS beauty accounts
- Full tutorial bundles (step-by-step, zoom-ins, personalized recs)

NYU

Skincare

Video > Image
Timing: Tues-Wed, 4-9pm

Likes
(Engagement/Reach)

Content

Videos
- Anti-aging
- Luxury
- Lifestyle/routine

Images
- Oily skin/pores
- Whitening
- Anti-aging/ Collagen, spots

Execution
- Ingredient + effect focus
- Clear product application
- Fast-results claims
- Beauty focus + general use
- Casual, conversation

Creative Direction
- Clean, aesthetic visuals
- Product + texture clarity
- Female-centric + demo-oriented

Messaging
Keywords: skincare, serum, anti-aging, face, skin
Tone: Casual, informative, lightly aspirational

Additional
- Everyday recommendations bundle (product pairings, routine integration

Saves
(Conversion)

Content

Videos
- Anti-aging
- Luxury
- Routines

Images
- Routines
- Giveaway/ Campaign
- Product-focus (holding bottle)

Execution
- Before → after results
- Product layering + pairing
- Multiple products in routine
- High-trust delivery, less promo
- Moderate humor

Creative Direction
- Full lifestyle integration
- Aesthetic creator persona
- Clean but realistic routine

Messaging
Keywords: skincare, serum, anti-aging, face, skin
Tone: Trust-driven, informative, slightly humorous

Additional
- Tag official XHS video + vlog accounts
- Giveaway/community-driven amplification
- Product effects bundle (layering, routine, results)

NYU

Takeaways

07

NYU

Learnings

1. **Segmentation is Critical**
   Results varies significantly by category, brand, product, and media type → analysis must be highly granular

2. **Video ≠ One-Size-Fits-All**
   Weak clustering results → prioritized correlation-based insights

3. **Content Drives Trust → Trust is Conversion Driver**
   Organic, non-promotional content outperforms → users respond to perceived autonomy + unbiased reviews

4. **LLMs: High Potential, Low Control**
   Fast + scalable compared to traditional methods but still face difficulties in prompt engineering, output quality + reproducibility

5. **Engagement Tactics ≠ Conversion**
   Official XHS account mentions + giveaways boost engagement → may not translate to commercial value

Executive Summary

1. **Videos dominate performance**
   Across all categories, videos outperform images (especially fragrance) → highlights need for multi-modal analysis

2. **Content format must be category specific**
   Makeup: *tutorials + facial visuals |* ***Skincare:*** *routines + ingredient/effect focus |* ***Fragrance:*** *lifestyle storytelling + aesthetics*

3. **Visual drivers differ by engagement type**
   Likes: *aesthetic, emotional, lifestyle-drive |* ***Saves:*** *structured, instructional, product-focused*

4. **Trust > Promotion**
   Low-sales, unbiased content drives engagement → perceived authenticity is critical

5. **Social media performance is multi-factor**
   Content alone doesn't explain engagement → timing, context, trends, and algorithm can amplify outcomes

6. **Suggestions: AI + Automation**
   Agentic workflows to scale pipeline
   Compare AI-generated posts vs human-created content using engagement metrics
   Validate engagement metrics with business outcomes (conversion + sales impact)

NYU


Thank You!