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# Tech Stack & Workflow

## Objective

To measure brand presence for the keyword “smart fan” across Google Search and X (Twitter) by calculating:

- Count-based Share of Voice (SoV)
  - Engagement-based SoV
  - Share of Positive Voice (SPoV)
  - Composite SoV
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## Platforms & Data Sources

- **Google Search (SERP)** – Fetched search results using SerpAPI.
  - **Twitter (X)** – Collected tweets using TwitterAPI.io.
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## Tech Stack

Component	Tools/Libraries
Data Collection	serpapi, TwitterAPI.io
Data Processing	pandas, numpy
Sentiment Analysis	VADER SentimentIntensityAnalyzer
Brand Detection	OpenAI Embeddings + cosine similarity
SoV Calculation	Custom formulas (count-based, engagement-based, composite)

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## Methodology

1. **Keyword Search** – Run “smart fan” query across Google and Twitter.

2. **Data Collection** – Store top N search results and tweets (Google SERP: 25, X: 19 tweets).
  3. **Brand Identification** – Match text with predefined brand list using embeddings.
  4. **Metrics Computation** –
    - **Count-based SoV:** Share of mentions per brand.
    - **Engagement-based SoV:** Weighted by likes, retweets, replies (Twitter) or rank (Google).
    - **SPoV:** Share of engagement from positive sentiment content.
    - **Composite SoV:** Average of count-based and engagement-based SoV.
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## Results & Insights

### 1. Share of Voice Results

#### Count-based SoV (%)

- Bajaj: **0.0**
- Usha: **0.0**
- Crompton: **0.0**
- BLDC: **23.08**
- Atomberg: **0.0**
- Orient: **0.0**
- Havells: **76.92**

#### Engagement-based SoV (%)

- Bajaj: **0.0**
- Usha: **0.0**
- Crompton: **0.0**
- BLDC: **60.00**

- Atomberg: **0.0**
- Orient: **0.0**
- Havells: **40.00**

#### Share of Positive Voice (SPoV, %)

- Bajaj: **0.0**
- Usha: **0.0**
- Crompton: **0.0**
- BLDC: **60.00**
- Atomberg: **0.0**
- Orient: **0.0**
- Havells: **40.00**

#### Composite SoV (%)

- Bajaj: **0.0**
- Usha: **0.0**
- Crompton: **0.0**
- BLDC: **50.77**
- Atomberg: **0.0**
- Orient: **0.0**
- Havells: **49.23**

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## 2. Detailed Table

Brand	Mentions	Total Engagement	Positive Engagement	Engagement Normalized
Bajaj	0.0	0.0	0.0	0.0
Usha	0.0	0.0	0.0	0.0
Crompton	0.0	0.0	0.0	0.0

Brand	Mentions	Total Engagement	Positive Engagement	Engagement Normalized
BLDC	3.0	3.0	3.0	0.6
Atomberg	0.0	0.0	0.0	0.0
Orient	0.0	0.0	0.0	0.0
Havells	10.0	2.0	2.0	0.4

I have run various different search queries for example smart ceiling fan, best ceiling fan, remote controlled fan, but still I didn't find any results for our Atomberg brand consistently after running the code various times.

### **SUGGESTIONS:**

1) **Boost High-Intent SEO Keywords** – Prioritize "smart fan", "energy efficient ceiling fan", and "remote control ceiling fan" in content strategy.

2) **Influencer Collaboration** – Engage tech reviewers & home décor influencers on YouTube & Instagram to increase brand share in top search results.

3) **Twitter Activation Campaign** –

- Increase tweet volume around product launches & customer testimonials.
- Use trending hashtags (#SmartHome, #EnergySaving) to boost discoverability.

4) **Positive Sentiment Amplification** – Repurpose positive customer reviews as ads/posts to increase SPoV impact.

5) **SERP Positioning** – Collaborate with e-commerce partners to ensure Atomberg products rank higher for relevant queries.

### **Conclusion:**

Current Share of Voice for Atomberg in “smart fan” searches is very low and inconsistent. Strategic SEO, influencer partnerships, and proactive engagement campaigns can significantly improve brand visibility and competitive positioning.

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