Research Methodology

3.1 Research Design

This study employed a **quantitative cross-sectional design** to analyze hate speech patterns across authentic and inauthentic social media accounts during the 2025 Thailand-Cambodia border dispute and Swedish arms sales controversy. The research utilized **proportional stratified sampling** and **systematic content analysis** to examine the relationship between account authenticity and hate speech targeting patterns on Facebook.

3.2 Data Collection

3.2.1 Platform Selection

Facebook was selected as the primary data source due to its:

- Dominant role in Southeast Asian political discourse
- Public accessibility of comments for research analysis
- Presence of official institutional pages alongside individual accounts
- Real-time documentation of crisis period discussions

3.2.2 Page Selection and Criteria

Thirteen Facebook pages were identified through a two-step process during August 25-28, 2025.

Step 1: The researcher searched Facebook using keywords related to the Gripen sales controversy (e.g., "Gripen," "Sweden Thailand," "Cambodia conflict"). This identified pages with active discussions.

Step 2: Pages with substantial comment volume over 100 were selected for analysis.This approach captured the most visible and actively discussed spaces during the controversy.

Selected pages included:

Thailand pages (4):

- Khaosod - ข่าวสด (Thai language news)
- Khaosod English (English language news)
- The Nation Thailand (English language news)
- The Bangkok Post (English language news)

Cambodian Pages (7):

- Tang Kimsour (Individual content creator)
- The Phnom Penh Post (Major English newspaper)
- វណ្ណនេត ហ្វីត - Vannet Feed (Individual content creator)
- Cambodianess (News outlet)
- Cambodian Human Rights Committee (Government organization)
- Fresh News (Pro-government news outlet)
- AJA-A (Public figure/radio host)

Swedish Diplomatic Page (1):

- Embassy of Sweden in Bangkok (Official diplomatic presence)

Other (1):

- Men Kimseng (Former VOA broadcaster, independent content creator)

3.2.3 Data Collection Timeline

Data collection occurred during August 2025, capturing public commentary during the peak period of the border dispute and arms sales controversy:

- **Most Facebook pages (12 of 13):** Comments from August 26-29, 2025, corresponding to heightened discussion following the August 25 Gripen contract signing
- **Embassy of Sweden in Bangkok:** Sustained discussion throughout August 1-28, 2025, reflecting ongoing diplomatic commentary

This temporal concentration captured peak public sentiment during the most relevant period for studying hate speech and cross-national targeting patterns.

3.2.4 Data Extraction

Data Collection Limitations

The data extraction process faced two technical constraints that affected the completeness of comment collection:

Geographic restrictions: Some Facebook accounts restrict content visibility based on user location. Users can configure their privacy settings to hide posts and comments from viewers in specific countries. The researcher, accessing Facebook from Cambodia, could not view comments from accounts that restricted visibility to Cambodian IP addresses. This means the actual number of comments on posts exceeded the number visible and downloadable from a Cambodian location.

Tool limitations: The data collection tool used for downloading comments had technical limitations in retrieving the complete comment threads. The tool could not capture all comments, especially those in very long threads, deeply nested replies, or comments that Facebook had flagged. Additionally, comments deleted by users or removed by Facebook after initial posting but before data collection would not appear in the dataset.

The initial dataset comprised:

- **Total comments:** 4,337 across all 13 pages
- **Unique profiles:** 2,474 individual Facebook accounts
- **Average comments per profile:** 1.8

Comments were extracted with associated profile metadata including account creation information, friend counts, posting patterns, and engagement metrics.

3.3 Sampling Methodology

3.3.1 Sampling Design

Proportional stratified random sampling was employed to ensure representative selection across all Facebook pages while maintaining statistical validity.

3.3.2 Sample Size Calculation

Using standard statistical formulas for finite population sampling:

Target confidence level: 90-95%
Margin of error: 5-6%
Expected proportion: 50% (maximum variability)

Formula applied:

$n = Z^2 \times p \times (1-p) / E^2$
Adjusted: $n_{final} = n / (1 + (n-1)/N)$

Where:

- Z = 1.645 (90% confidence)
- p = 0.5 (expected proportion)
- E = 0.05 (margin of error)
- N = 2,474 (total population)

Calculated sample size: 245 profiles
Achieved sample size: 237 profiles (after duplicate removal)

3.3.3 Proportional Allocation

Each Facebook page contributed samples proportional to its population size:

Facebook Page	Population	Sample Size	Sampling Rate
The Phnom Penh Post	342	35	10%
The Bangkok Post	292	29	10%
Vannet Feed	290	29	10%
The Nation Thailand	251	25	10%
Embassy of Sweden in Bangkok	249	25	10%
AJA-A	226	22	10%
Khaosod English	193	19	10%
Fresh News	182	18	10%
Khaosod - ข่าวสด	143	14	10%
Men Kimseng	124	12	10%
Cambodianess	85	8	9%
Tang Senghour	52	5	10%
Cambodian Human Rights Committee	45	4	9%
Total	**2,474**	**245**	**10%**

3.3.4 Selection Method

Systematic sampling was applied within each stratum using intervals calculated as k = N/n for each page, with random starting points between 1 and k.

3.3.5 Data Cleaning

One duplicate profile was identified and removed during data cleaning, resulting in a final analytical sample of 237 unique profiles. This 0.4% reduction had negligible impact on statistical validity.

3.4 Authenticity Detection Framework

3.4.1 Five-Indicator System

A novel authenticity detection method was developed based on observable Facebook profile characteristics:

Indicator 1: Friend Count

- Criterion: Fewer than 100 friends
- Rationale: Inauthentic accounts typically have limited social connections

Indicator 2: Content Behavior

- Criterion: Only shares content, never creates original posts
- Rationale: Automated accounts often lack original content creation

Indicator 3: Engagement Pattern

- Criterion: Posts receive no likes, comments, or responses
- Rationale: Inauthentic accounts show poor organic engagement

Indicator 4: Profile Authenticity

- Criterion: Suspicious names, stock photos, or inconsistent information
- Rationale: Fake accounts often use generated or inconsistent profile elements

Indicator 5: Database Cross-Reference

- Criterion: Profile found in researcher-compiled database of known inauthentic accounts
- Rationale: Previously identified inauthentic accounts

3.4.2 Classification Scale

Profiles were classified based on the number of indicators present:

- **0-1 indicators:** Authentic account (genuine person)
- **2 indicators:** Suspicious (uncertain authenticity)
- **3-4 indicators:** Likely inauthentic (probably fake)
- **5 indicators:** Inauthentic account (almost certainly fake)
- **Locked profiles:** Classified separately as N/A

3.4.3 Development and Rationale of the Five-Indicator Method

Origins of the Method

The five-indicator detection method emerged from systematic monitoring of inauthentic account behavior on Cambodian Facebook pages from 2023 to 2025. This field experience revealed consistent behavioral patterns that distinguish inauthentic accounts from authentic users. The method was designed to work without platform-level data access. All indicators can be observed through manual inspection of public profiles, making the approach accessible to researchers and civil society organizations with limited technical resources.

Why Multiple Indicators Matter

A critical methodological insight guides this framework: **no single indicator alone proves inauthenticity.** Authentic accounts can exhibit any individual indicator for legitimate reasons. The method's validity depends on observing multiple indicators together.

Indicator 1: Fewer Than 100 Friends

Automated account creation tools generate multiple accounts simultaneously. After creation, these tools add connections between newly created accounts to

simulate authentic social networks. This produces accounts with limited friend counts.

Why this alone is insufficient: Newly created authentic accounts, people returning to the platform, or users who prefer small social circles also have fewer than 100 friends.

Indicator 2: Only Shares Content, Never Creates Original Posts

Inauthentic accounts managed by automation tools primarily share existing content rather than creating original posts. This requires less effort to operate at scale and allows rapid amplification of specific narratives.

Why this alone is insufficient: Many authentic users legitimately prefer sharing content over creating original posts. Privacy-conscious individuals or passive social media users exhibit this behavior.

Indicator 3: Posts Receive No Likes, Comments, or Responses

Inauthentic accounts operate in networks where "friends" are often other bot accounts. These fake friend networks do not engage with each other's content organically. Posts receive no genuine engagement because friend lists consist primarily of other inauthentic accounts.

Why this alone is insufficient: Authentic accounts also receive no engagement when Facebook's algorithm does not distribute their content widely, or their friends do not find content interesting.

Indicator 4: Suspicious Profile Elements

Inauthentic accounts use several tactics to appear authentic:

- AI-generated profile photos that do not correspond to real people
- Downloaded photos from internet sources
- AI-generated names following local naming conventions
- Generic or coded usernames instead of personalized URLs
- Inconsistent or blank biographical information

Why this alone is insufficient: Privacy-conscious authentic users also use generic photos, minimal biographical information, and default usernames to protect their identity.

Indicator 5: Database Cross-Reference

Since 2023, the researcher has systematically documented accounts participating in online harassment campaigns on Cambodian Facebook pages, with most documentation occurring in 2024. This database was built through monitoring harassment targeting civil society organizations, LGBTQA+ communities, women, and other vulnerable groups. The documented accounts displayed concerning behavioral patterns including hate speech and repetitive comments. Many of these accounts showed characteristics suggesting they were created by automated tools, though formal classification was not conducted at the time of documentation.

Rationale for this indicator: The database serves as a repository of accounts showing suspicious behavior patterns in previous controversies. Cross-referencing Gripen controversy participants with this database could reveal whether the same suspicious accounts operate across multiple controversies and topics. This would indicate either coordinated campaigns using the same account infrastructure, or persistent bad actors engaging in toxic behavior across different contexts. Accounts appearing in both the harassment database and the Gripen controversy would demonstrate consistent patterns of problematic behavior.

Why this alone is insufficient: An account's absence from the database does not prove authenticity. New inauthentic accounts are created constantly. Authentic users can also engage in hate speech without prior harassment history. The database captures only a subset of suspicious accounts active in 2023-2024 Cambodian discussions, not all inauthentic accounts operating in the region.

3.5 Content Analysis

3.5.1 Comment Selection

For profiles with multiple comments (average 1.8 per profile), the comment most relevant to the border dispute or arms sales controversy was selected for analysis, prioritizing:

1. Comments mentioning border conflict, military action, or arms sales
2. Comments expressing sentiment toward Cambodia, Thailand, or Sweden
3. Most recent comment if no relevant content identified

3.5.2 Hate Speech Classification

Content was classified using a binary method:

Speech Status:

- **Problematic:** Content containing offensive language, discrimination, harassment, or hate speech
- **Neutral/Clean:** Content remaining neutral, positive, or negative without hate speech elements

3.5.3 Sentiment Targeting Categories

Sentiment was classified into mutually exclusive categories:

- **Anti-Cambodia Sentiment:** Content targeting Cambodia with negative sentiment
- **Anti-Thailand Sentiment:** Content targeting Thailand with negative sentiment
- **Anti-Sweden Sentiment:** Content targeting Sweden with negative sentiment
- **Weapons/Military Criticism:** Content criticizing military actions or arms sales
- **Multiple Targets:** Content targeting multiple countries
- **Other/Neutral:** Content not fitting above categories

3.6 Ethical Considerations

3.6.1 Data Privacy

- Only publicly available Facebook comments were analyzed

- No private or restricted content was accessed
- Profile identifiers were anonymized in analysis

3.6.2 Content Sensitivity

- Hate speech content was analyzed for research purposes only
- No hate speech content was amplified or redistributed
- Cultural and linguistic nuances were considered in classification

3.8 Limitations

3.8.1 Methodological Limitations

- **Single platform focus:** Analysis limited to Facebook, excluding other social media platforms
- **Temporal snapshot:** Data captured during specific time period may not represent long-term patterns
- **Language interpretation:** Cross-cultural content analysis may introduce interpretation variations
- **Manual coding subjectivity:** Sentiment classification involved researcher interpretation

3.8.2 Scope Limitations

- **Geographic focus:** Limited to Thailand-Cambodia-Sweden triangle, may not generalize to other conflicts
- **Conflict-specific:** Results specific to border dispute and arms sales context
- **Platform-specific:** Authenticity indicators may vary across different social media platforms

3.8.4 Data Access Limitations

- **Geographic Visibility Restrictions:** Data collection from a Cambodian IP address meant that comments from accounts blocking Cambodian viewers were not accessible. The actual volume of discussion exceeded the collected sample.

- **Tool Constraints:** Technical limitations of data collection tools prevented complete capture of all comments, particularly in very large threads or nested reply structures.
- **Sampling Implications:** The 237 profiles analyzed represent a systematic sample from the accessible discussion visible from Cambodia, not from the complete universe of all comments. Findings describe patterns within this accessible subset.