Providing Focus via a Social Media Exploitation Strategy

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“Huh. So Iran just friended us on Facebook ... Like, do I accept?”
What to monitor?
China’s SM sites
Feeling Overwhelmed

- Unique platforms
- Many COTS tools and companies
- Lack of understanding
- Little training
- Few resources
Significant challenges (based on analyst interviews)

- IM & IT policy, & security issues
- Anonymous access close to their workspaces
- IC attitudes
- Tools, methodologies, and training
Early 2014 – A brief moment of clarity

• Everyone wanted to get something started but not sure how to proceed

• Analysts “kind of knew what they wanted” but have little experience

• Knew we could not do it all!

• So we had to jump in

• Feel better through action
Three-Pronged Approach to SM Exploitation

I. Day to day monitoring
   - Automated as much as possible
   - Good ability to filter – get to the data that matter
   - Ability to export data

II. Country SM Profiles
    - Ability to quickly decide relevance of SM
    - Keeps track of important by more stable indicators

III. Deep dive analysis capability
    - Toolbox of important analysis types
I. Monitoring for Situational Awareness

Analyst Input:
- Keywords
- Hashtags
- Time
- Location

Automated monitoring of:
- Twitter
- Blogs
- Newsfeeds
- Datashift feeds

Baseline:
- Establish
- Compare

Analysis by:
- Lexical map
- Timeline
- Users
- Communities of publishers
- Statistics

Output:
- Direct info for reports
- Exports for further analysis
### Media richness vs Self-disclosure of select social media

<table>
<thead>
<tr>
<th>Self-disclosure</th>
<th>Low</th>
<th>Moderate</th>
<th>High</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>Forums, Wikis</td>
<td>Video and image sharing communities</td>
<td>Virtual games</td>
</tr>
<tr>
<td>High</td>
<td>Blogs, Microblogs</td>
<td>Social Networks</td>
<td>Virtual worlds</td>
</tr>
<tr>
<td>Intelligence usage</td>
<td>Social media source</td>
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<tr>
<td>-----------------------------------------------------------------------------------</td>
<td>--------------------------------------------</td>
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<td></td>
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<tr>
<td>• Near-Real time Situational Awareness</td>
<td>Micro-blog (e.g. Twitter)</td>
<td></td>
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<tr>
<td>• Trend watch</td>
<td>News feeds</td>
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<td></td>
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<tr>
<td>• Early warning and indicators</td>
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<td></td>
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<tr>
<td>• Alerting service</td>
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<tr>
<td>• Threat assessment</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>• Targeting (non-kinetic) (i.e. profiling); identifying and getting information</td>
<td>Social networks</td>
<td></td>
<td></td>
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<tr>
<td>• Social Network Analysis</td>
<td>Genealogy</td>
<td></td>
<td></td>
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<tr>
<td>about particular person of interest, groups, organizations.</td>
<td>Location</td>
<td></td>
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<tr>
<td>• In-depth content about a subject or content Profile</td>
<td>Event posting</td>
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<tr>
<td>• Structure of orgs</td>
<td></td>
<td></td>
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<tr>
<td>• Understanding the ideology</td>
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<td></td>
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<tr>
<td>• Collateral damage assessment</td>
<td>Images (e.g. Instagram, Militaryphotos.net)</td>
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<td></td>
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<tr>
<td>• Targeting</td>
<td>Video (e.g. YouTube)</td>
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<tr>
<td>• Standing products</td>
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<td></td>
<td></td>
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<tr>
<td>• Basic intelligence (baseline)</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>• Country reports</td>
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<td></td>
<td></td>
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<tr>
<td>• Social Network Analysis</td>
<td>Virtual game-worlds (e.g. World of Warcraft)</td>
<td></td>
<td></td>
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<tr>
<td>• Structure of orgs</td>
<td>Virtual social worlds (e.g. Second Life)</td>
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<tr>
<td>• Understanding the ideology</td>
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What still needs to be added to monitoring?

- Auto-alerting
- Automated baseline and trend analysis leading to an alert
- Language capability
- Deep-dive analysis follow-on
II. Social Media Country Profiles

- Metadata about social media usage is likely to change at a much slower rate than the actual content produced on the platforms
- Maintain profile for a country of interest that allow for fast ramp up
- Gives ability to determine if SM will be a viable source (right population, right focus for INT collection)
- Also provides focus for platform research and training needs
GLOBAL DATA SNAPSHOT

7,095,476,818
TOTAL POPULATION

2,640,432,161
INTERNET USERS

1,858,450,660
ACTIVE SOCIAL NETWORK USERS

3,424,960,000
ACTIVE MOBILE USERS

6,966,523,000
ACTIVE MOBILE SUBSCRIPTIONS

52%
URBAN

48%
RURAL

37%
INTERNET PENETRATION

26%
SOCIAL NETWORKING PENETRATION

48%
MOBILE USAGE PENETRATION

98%
MOBILE SUBSCRIPTION PENETRATION
Social Networking in the Arab World

Results based on responses from social network users

- Facebook: 94%
- Twitter: 52%
- Google+: 46%
- Instagram: 14%
- LinkedIn: 6%

Countries surveyed: Qatar, Lebanon, Egypt, Jordan, Tunisia, KSA, UAE, Bahrain

Northwestern University in Qatar, 2013

To explore the findings in detail go to http://menamediasurvey.northwestern.edu
The demographics of Weibo users:

- **19-25**: 19%
- **26-30**: 30%
- **31-35**: 21%
- **36-40**: 12%
- **41-45**: 9%
- **46-55**: 6%
- **56-65**: 3%

**Gender Distribution:**
- **Female**: 43%
- **Male**: 57%

Source: DCCI (Sep & Oct 2012)
TIME SPENT ON THE INTERNET
AVERAGE NUMBER OF HOURS PER DAY SPENT BY INTERNET USERS ON THE INTERNET

<table>
<thead>
<tr>
<th>Country</th>
<th>Laptop/Desktop</th>
<th>Mobile Device</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poland</td>
<td>4.8</td>
<td>1.8</td>
</tr>
<tr>
<td>Russia</td>
<td>4.8</td>
<td>1.4</td>
</tr>
<tr>
<td>Italy</td>
<td>4.7</td>
<td>2.2</td>
</tr>
<tr>
<td>Sweden</td>
<td>4.2</td>
<td>1.4</td>
</tr>
<tr>
<td>France</td>
<td>4.1</td>
<td>1.4</td>
</tr>
<tr>
<td>UK</td>
<td>4.1</td>
<td>1.6</td>
</tr>
<tr>
<td>Spain</td>
<td>4.0</td>
<td>1.8</td>
</tr>
<tr>
<td>Germany</td>
<td>3.7</td>
<td>1.6</td>
</tr>
<tr>
<td>Netherlands</td>
<td>3.7</td>
<td>1.4</td>
</tr>
<tr>
<td>Ireland</td>
<td>3.7</td>
<td>1.9</td>
</tr>
</tbody>
</table>
Countries Ranked In Order Of The % Of Twitter Users In Their Internet Populations

BI INTELLIGENCE

Source: GlobalWebIndex
Country SM Profile - Template characteristics - 1

- What are the main social media platforms being used?
  - Types most frequently used (blogs, video, image etc.)
  - Who are using each?
    - Age
    - Sex
    - Religion
  - Method of access – PC, Mobile
- What are the main topics of interest discussed
  - Blogs
  - Mico-blogs
  - Videos
Country SM Profile - Template characteristics -2

- Cyber concerns
  - What types of deception originate from this country?
  - Use of bots
  - Criminal activities
- Who has control of these platforms?
  - What is the level of government monitoring of these platforms?
  - What types of actions are taken against SM users?
- Geolocation data
  - What other countries are sharing these platforms?
  - What are the main other countries that contribute for the popular discussion for the country of interest?
III. Deep Dive Analysis

- Constantly changing platforms and features
- Different platforms used around the world
- Hundreds of media formats
- Many COTS tools, methods and services
- High level of language and cultural understanding
- High level of trg. for analysts
Interview results sample – Analysts think that SM is good for:

- Monitoring of remote location events (for validation purposes) - YouTube has proven to be very useful and used to complete INT reports about damages and armaments used.
- Follow tweets from influencers.
- Perceive sentiment about an evolving conflict situation (predict what's next)
- Perceive reaction and local population attitudes about some decisions on foreign policies.
- Quickly analyse the effect of operations on local population (assess kinetic effect, measure success, understand social reaction to operation, define influence requirements).
- Corroborate quickly some information from other INTs (need many sources).
- Identify the real intent of individuals and groups (identify contradictory discourses) - variations of intent.
- Identify patterns of life of individuals.
- Identify, understand, and monitor social networks.
- Dig information triggered by SIGINT activity.
- Perceive the extent of misinformation about a situation.
- Perceive the difference between what media is advertising and what people are thinking (on what side do they stand).
- Stay up-to-date about how people exchange information.
- Monitor influence - Identify both strong leaders and soft leaders in the SM world.
- Force protection (monitor exposure of critical military assets and operations to outside world).
- Rumor detection.
- Monitoring “friendly” SM for Counter Intelligence, OPSEC and the adversary’s perception of us.
Types of Analysis

- Trend analysis and Prediction
- Geo-location
- Opinion and Sentiment
- Social Network Analysis
- Temporal
- Finding influencers
- Patterns of life
- Semantic analysis
- Anomaly detection

- Discovery
  - Visual analytics
  - Data mining
  - Network and link analytics
    - For example: Community detection, information flow
- Data reduction
  - Fusion
  - Filtering
- Relevance assessment
- Credibility and reliability assessment
- Classification and clustering
  - Cultural analysis
  - Theme detection
  - Rumour detection
  - Dialect detection
  - Pattern detection
- Statistical analysis
  - Techniques particular to large data collections
  - What stats are being produced?
- Narrative structure analysis
- Intent analysis
How we will Proceed:

- Let our analysts gain some experience with the SM data
- Conduct research into the likely deep-analytic types
- Look for COTS, or develop, deep dive analysis tools and techniques
- Prioritize based on countries of interest for SMCP and Platforms
- Incorporate different language capabilities
- Add cultural meaning analysis