Collaboration with Social Media in Emergency Response: A Case Study in Shanghai, China

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Introduction

- By the end of 2012, Chinese microblogging accounts had reached 309 million.
- Among them, over 176,000 accounts were opened and managed by Chinese government agencies.
Introduction

- Government microblogs become channels for governments to disclose information, provide public services and interact with citizens.
- Will government microblogs also foster collaboration among government institutions, between governments and NGOs, and between governments and companies?
Literature Review

Collaboration

Social Media

Collaboration with social media

Emergency Responses

Gap: Collaboration with social media in emergence response
Case for Study: Shanghai Metro
Research Methods

Date Collection Procedure
- Observation:
  Information and interactions on key players’ microblogs
- Interviews:
  Microblogs’ managers, operators and service providers

Data Analysis
- Quantitative with SPSS
- Qualitative with Atlas.ti
Research Questions

- **Who?**
  - Who are the major players in emergence response with social media?

- **What and How?**
  - What specific actions did players take respectively in collaboration with social media? And How?
  - What do boundaries did they cross in collaboration?

- **When**
  - Did the roles they play change over time in different stages of the emergence?

- **What Differences?**
  - Does social media make a difference in collaboration?
Framework of Boundaries in Information Sharing and Integration

Vertical
- Hierarchical
- Personal
- Distance
- Development level

Interaction

Horizontal
- Departmental
- Personal
- Distance
- Development level
- Process
- Sector

( Zheng, Yang and Pardo, 2009)
Findings
## Key Players:

<table>
<thead>
<tr>
<th>Key Players</th>
<th>Institutions and Individuals</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Shanghai Metro (SOE)</strong></td>
<td><strong>Headquarter</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Branches and divisions</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Individuals: leaders, managers and staff</strong></td>
</tr>
<tr>
<td><strong>Government Agency in Charge</strong></td>
<td><strong>Municipal Transportation Bureau</strong></td>
</tr>
<tr>
<td><strong>Government Collaborators: agencies, Institutions and SOEs</strong></td>
<td><strong>Police Department</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Shanghai Bus Company</strong></td>
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<tr>
<td></td>
<td><strong>Railway Bureau</strong></td>
</tr>
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<td></td>
<td><strong>Airline companies</strong></td>
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<tr>
<td></td>
<td><strong>Hospitals</strong></td>
</tr>
<tr>
<td><strong>NGO</strong></td>
<td><strong>Shanghai Metro Club</strong></td>
</tr>
<tr>
<td><strong>Media</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Passengers</strong></td>
<td></td>
</tr>
</tbody>
</table>
# Key Players and Information

<table>
<thead>
<tr>
<th>Key Players</th>
<th>Institutions and Individuals</th>
<th>Information posted or forwarded</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shanghai Metro</td>
<td>Headquarter</td>
<td>49</td>
<td>16.28%</td>
</tr>
<tr>
<td></td>
<td>Branches and divisions</td>
<td>50</td>
<td>16.61%</td>
</tr>
<tr>
<td></td>
<td>Individuals: leaders, managers and staff</td>
<td>75</td>
<td>24.92%</td>
</tr>
<tr>
<td>Government Agency in charge</td>
<td>Transportation Bureau</td>
<td>17</td>
<td>5.65%</td>
</tr>
<tr>
<td>Government Collaborators: agencies, Institutions and SOEs</td>
<td>Police Department</td>
<td>27</td>
<td>8.97%</td>
</tr>
<tr>
<td></td>
<td>Shanghai Bus Company</td>
<td>8</td>
<td>2.66%</td>
</tr>
<tr>
<td></td>
<td>Railway Bureau</td>
<td>8</td>
<td>2.66%</td>
</tr>
<tr>
<td></td>
<td>Airline companies</td>
<td>2</td>
<td>0.66%</td>
</tr>
<tr>
<td></td>
<td>Hospitals</td>
<td>11</td>
<td>3.65%</td>
</tr>
<tr>
<td></td>
<td>NGO</td>
<td>Shanghai Metro Club</td>
<td>54</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>301</td>
<td>100.00%</td>
</tr>
</tbody>
</table>
Initiate vs. Forward

- Shanghai Metro & Transportation Bureau:
  - Initiates: 155
  - Forwards: 191

- Government Collaborators:
  - Initiates: 56
  - Forwards: 155

- NGO:
  - Initiates: 2
  - Forwards: 52
<table>
<thead>
<tr>
<th></th>
<th>Facts</th>
<th>Services</th>
<th>Attitudes</th>
<th>Reflections</th>
<th>Directing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shanghai Metro &amp; Transportation Bureau</td>
<td>41</td>
<td>19</td>
<td>3</td>
<td>3</td>
<td>84</td>
</tr>
<tr>
<td>Government Collaborators</td>
<td>39</td>
<td>11</td>
<td>6</td>
<td>1</td>
<td>39</td>
</tr>
<tr>
<td>NGO</td>
<td>26</td>
<td>14</td>
<td>10</td>
<td>2</td>
<td>0</td>
</tr>
</tbody>
</table>
Information by Stage

Pre-crisis
- Facts: 1
- Services: 1
- Attitudes: 26
- Reflections: 1

Crisis
- Facts: 11
- Services: 1
- Attitudes: 29
- Reflections: 4

Post-crisis
- Facts: 51
- Services: 15
- Attitudes: 4
- Reflections: 6

Crisis Reflection
- Facts: 38
- Services: 0
- Attitudes: 4
- Reflections: 3
- Directing: 1
Forwarding by Stages

![Graph showing forwarding by stages with bar chart for tweets posted and line chart for tweets being forwarded in average across pre-crisis, crisis, post-crisis, and crisis reflection stages.](image-url)
Forwarding by Content Types

- Facts
- Services
- Attitudes
- Reflections
- Directing
Boundaries Crossed

- **Vertical:**
  - Agency in charge – Company
  - Across levels within the Company
  - SOE – Staff

- **Horizontal:**
  - Across government agencies
  - Government – Public
  - Government -- NGO
  - Across divisions in the Company
  - Across individuals
  - Across distance
Conclusions

- Social media can be used to foster collaboration across various boundaries
- Different roles played by different players in different stages
## Conclusions

<table>
<thead>
<tr>
<th>Collaboration With Social Media</th>
<th>Collaboration With tradition IT systems</th>
</tr>
</thead>
<tbody>
<tr>
<td>Voluntary</td>
<td>Mandatory</td>
</tr>
<tr>
<td>Bottom-up</td>
<td>Top-down</td>
</tr>
<tr>
<td>Citizen Initiating</td>
<td>Government-leading</td>
</tr>
</tbody>
</table>
THANK YOU!