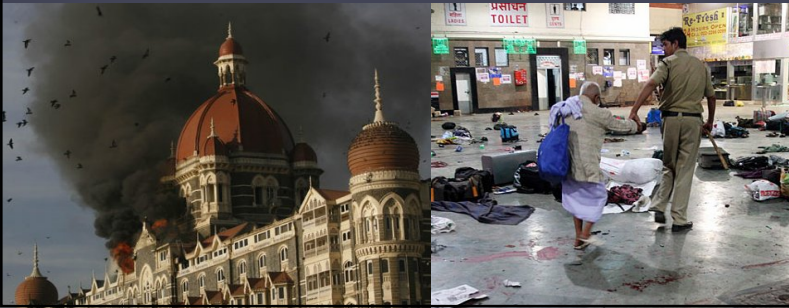


Information Control and Terrorism: Tracking the Mumbai Terrorist Attack through Twitter

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Agendas

- Analysis of terrorists' decision making cycle during the Mumbai terrorist attack
 - Situation Awareness (SA) Theory
 - Role of situational information
- Analysis of Twitter postings of the Mumbai terror incident.
- Challenging issue of information control in social networking website during the terrorist attack

Mumbai Terror: Survey

- Arguably the worst terrorist incident in the history of India

Nov. 26th, ~Nov. 29th, 2008

Attack mounted by 10 Pakistani terrorists of the Lashkar-e-Toiba (LET) group

173 people killed, at least 308 people wounded

Mumbai Terror: Analysis

- “The first mass casualty terrorism against innocent civilians using **hand-held weapons**” in India (Raman 2009)

Past: “timed or remotely controlled improvised explosive devices (IEDs)”

Mumbai Terror: Use of **hand-held weapons**

What is the role of media, internet, communication technology and information in Mumbai terror?

- Raman: A former head of the Counterterrorism Division of the Research & Analysis Wing (R&AW) in India
- <http://globalpoliticsonline.com/wp/2009/01/17/mumbai-terrorist-attack-some-aspects/>

Some Takeaways from Raman's Analysis

- Understanding the triadic dynamics of:
Communication media including TV and Web
Attackers' **synchronous monitoring** of live media or
Web and collection of situation information
Use of the collected situation information for
opportunistic decision making in terrorist action
- Understanding of Terrorist's Decision Making Process--
Qualitative analysis of Terrorist's Phone Conversation:
Mumbai Terrorist Attack: Dossier of Evidence (2009)
Khetan, A. 2009. "60 Dark Hours at Hotel Taj," in 26/11 Mumbai
Attacked, H. Baweja (ed.), New Delhi: Roli Books, pp. 46-83.
And some online video clips

Some Takeaways from Raman's Analysis

- How Mumbai terrorist group enhanced **the effectiveness of hand-held weapons** and facilitated **the precise attack**?
- Role of SA as an antecedent of decision making:
 - (1) monitoring of live media and web,
 - (2) collection of situational information on Mumbai under terrorist operation
 - (3) opportunistic decision making, and
 - (4) delivery of action commands to onsite terrorist commandos
- Uncontrolled Media, Search Engine and Web 2.0:
live TV (NDTV, Zee News etc) and Twitter

INFORMATION WARFARE (IW)

- Definition of IW (DoD Directive 3210.01, 1996)
"[A]ctions taken to achieve **information superiority** by affecting adversary information, information-based processes, and information systems while defending one's own information, information-based processes, and information systems".
- Definition of IO (DoD Directive 3600.01, 2006)
"[T]he integrated employment of the core capabilities of Electronic Warfare (EW), Computer Network Operations (CNO), Psychological Operations (PSYOP), Military Deception (MILDEC), and Operation Security (OPSEC), in concert with specified supporting and related capabilities, to influence, disrupt, corrupt, or usurp adversarial human and automated **decision making** while protecting our own."

The key is Information superiority and decision making

Information Control

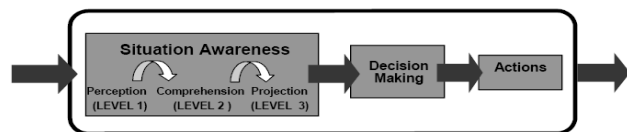
- We define **information control** as means to maintain information superiority by deterring or preventing terrorists' decision making such that it contributes to allies' operations of suppressing terrorist action.
- In light of this our definition, how about live media and Twitter?

Situation Awareness (SA) Theory

- Developed from and applied to the military discipline (Endsley 1995a; Endsley 1995b)

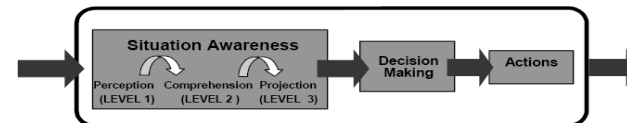
Three distinct cognitive processes for gaining information superiority

Positioning SA as a critical antecedent of decision making for goal achievement



Model of situation awareness levels and decision-action process (Strater et al. 2001)

Situation Awareness: From the Terrorist Perspective



Three **Political Goals** of Mumbai Terrorist Group (Raman 2009):

- (1) an anti-India agenda,
 - (2) an anti-Israel and anti-Jewish agenda, and
 - (3) an anti-US and anti-Nato agenda
- (Political) **Goals** operates as an Interpretive Scheme in Situation Assessment Process (Endsley 1995a; Endsley 1995b).

Information Warfare

Information Superiority - Terrorist Perspectives

- Handler:** See, the media is saying that you guys are now in room no. 360 or 361. How did they come to know the room you guys are in?...Is there a camera installed there? Switch off all the lights...If you spot a camera, fire on it...see, **they should not know at any cost how many of you are in the hotel, what condition you are in, where you are, things like that...these will compromise your security and also our operation [...]**

Khetan, A. 2009. "60 Dark Hours at Hotel Taj," in 26/11 Mumbai Attacked, H. Baweja (ed.), New Delhi: Roli Books, pp. 46-83.

Information Warfare

Information Superiority - Terrorist Perspectives

Terrorist: He is saying his full name is K.R. Ramamoorthy.

Handler: K.R. Ramamoorthy. **Who is he? ... A designer ... A professor ... Yes, yes, I got it ...** [The caller was **doing an internet search** on the name, and a results showed up a picture of Ramamoorthy] ... Okay, is he wearing glasses? [The caller wanted to match the image on his computer with the man before the terrorists.]

Terrorist: He is not wearing glasses. Hey, ... where are your glasses?

Handler: ... Is he bald from the front?

Terrorist: Yes, he is bald from the front ... he is fat and he says he has got blood pressure problems (Khetan 2009).

Khetan, A. 2009. "60 Dark Hours at Hotel Taj," in 26/11 Mumbai Attacked, H. Baweja (ed.), New Delhi: Roli Books, pp. 46-83.

Situation Awareness: Application From the Terrorist Perspective

Handler: Keep in mind that the hostages are of use only as long as you do not come under fire because of their safety. If you are still threatened, then don't saddle yourself with the burden of the hostages, immediately kill them.

Terrorist: Yes, we shall do accordingly, God willing.

Handler: The Army claims to have done the work without any hostage being harmed (SA Level 1). Another thing; Israel has made a request through diplomatic channels to save the hostages (SA Level 2). If the hostages are killed, it will spoil relations between India and Israel (SA Level 3).

Terrorist: So be it, God willing.

Mumbai Terrorist Attack: Dossier of Evidence (2009)



Information Control

Tweeting in Terrorism Situation - Content Analysis

- **Twitter:** real time, more up to date than blog or news channel – relayed information to main media

“CNN (US) called me up – she said she saw my twitter and then flickr. Spoke to her for 10 mins. She might call me back again!”

“#mumbai folks in south mumbai - if you're on skype video and can talk to a Toronto journalist, please contact @krisreyes”

“journalists are looking for folks tweeting about #mumbai. please message @anlugonz from the BBC if you're interested in being interviewed”

“twitter rocks – I am getting accurate and better information than MSM like Times Now!”

“CNN has been playing catch up to twitter :)”



Information Control

Tweeting in Terrorism Situation - Content Analysis

Twitter:

collective and voluntary postings in an **uncontrolled ad hoc way**, included lots of **sensitive situational information** directly related to Indian government's operational activity.

“RT @celebcorps remember when tweeting details that it is CONFIRMED terrorists have satphone (satellite phone – authors added) access to net sources (1:50 AM Nov 27th, 2008 from Ubiquity)”

“Indian government has requested to stop tweeting live updates about Mumbai (8:08 AM Nov 27th, 2008 from web)”

“why is Times Now still revealing the strategy and positions of commandos @ Nariman House? #mumbai (3:58 AM Nov 28th, 2008 from twhirl)”



Information Control

Tweeting in Terrorism Situation - Content Analysis

- **Data:** The Mumbai Twitter page (twitter.com/Mumbai)
All postings that have been posted in the page were actual events that happened in Mumbai

Information Control

Tweeting in Terrorism Situation - Content Analysis

Content analysis is a research method that describes manifest content of communication in an quantitative, objective, and systematic way (Krippendorff 1980; Meindl et al. 1985)

Used SA theory framework to create coding scheme

Terrorist group's 3 political agenda

Two masters students majoring in MIS were employed to separately code Twitter data.

Before coding, three phone conferences were instituted to discuss and understand the context and history of the Mumbai terror attack and the Mumbai Twitter page.

It was ensured that both clearly understood the three point political agenda of the Mumbai terrorist group and the SA concept

Information Control

Tweeting in Terrorism Situation - Content Analysis

- The coding was made in two rounds.
- The first round was a pilot test to verify the level of mutual understanding of the research topic and coding scheme
- After the first round of content analysis, one author and the two coders had a phone conference with disagreed data
- The author moderated disagreement between coders, refined the coding scheme, confirmed mutual understanding worked on the second round coding

Information Control

Tweeting in Terrorism Situation - Content Analysis

The **Kappa coefficient** represents the extent to which the probability of agreed understanding between coders is higher than that can be obtained by chance (Krippendorff 1980).

Political Goal	Situational Information (Sample Twitter Postings)	# of situational info / # of total posting	% of situational info
Anti-India	"#mumbai - interviewing a Korean who's wife is still stuck in the Old wing. They were taken to the rooftop. He hasn't talked to her yet." "Live gunfire outside Bombay hospital near metro cinema acc. to NDTV. Fear that terrorists will enter the hospital. Mumbai blasts"	168/934	17.98%
Anti-Israel and Anti-Jewish	"mumbai Authorities attack Nariman House with commandos and helicopter" "#Mumbai DG of NSG on Times Now. Nariman House - 5 hostages dead bt 1,2,4 floor so far. 3rd floor is still not clear."	106/934	11.34%
Anti-US and Anti-NATO	"mumbai Official death toll now 101 including several Australians, one Japanese national" "Retweeting @baxiabishek: #Mumbai Richard Stagg, British High Commissioner flew from New Delhi and is	43/934	4.6%

The Kappa value was **0.965**. The **inter-coder reliability** is very good

Conclusion

- Our qualitative analysis of terrorist's phone conversation supports the **validity of SA theory** in analyzing terrorists' decision making process.
- Mumbai terrorists actively and systematically **monitored** live media and used web search engines as a means to **enhance their level of SA**
- The Twitter site played a significant role in **relaying situational information to the mainstream media**, which was monitored by Mumbai terrorists
- Twitter posts could potentially have contributed to enhancing terrorists' SA level by exposing operationally sensitive information without any information control

Practical Implications for

National security policy makers, anti-terrorism security forces, and Web 2.0 based emergency reporting system designers

- Need to know that the Mumbai terrorist groups maintained a systematic mechanism of obtaining and maintaining high level of SA.
- The best efforts needs to be made to find ways to deter or prevent terrorist groups from sustaining high level of SA either through information control policy, Twitter posting monitoring, or system design during the terrorism
- Need to understand terrorist group's **political agenda as interpretive scheme** to decide which postings need to be controlled or not

Thank You!

Your comments are welcome!