Impact of New Media
on General Election 2011

Agenda Setting: What and How

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Outline

- Problem Statement
- Methodology and Analysis
- Answer Statement
- Discussion

2

Problem Statement

- What are the roles of online mainstream media (MSM) and new media in setting media agenda in this changing online landscape?

Data Collection

- Close to 1200 relevant online media sites, including websites belonging to online MSM (e.g. The Straits Times and Channel News Asia), and new media, including blogs, forums, Facebook and Twitter (there existed 650 streams with more than 50 tweets) were archived.
- Web Archiving Information System
  - Software Agents and System (Trendicate)
  - General Purpose Web Archiving System (Heritrix/NutchWax/Wayback)
  - Search engines (Google News, Google Blogs, Twitter Search, Youtube)
  - Total data size close to 3.5 Tera-Bytes

Sample of Active Sites

- *News site (~19)*
  - http://www.straitstimes.com/
  - http://www.channelnewsasia.com/singapore
  - http://www.todayonline.com/
- *Blog Aggregator: (~5)*
  - http://www.singapore-window.org/
  - http://www.singazine.com/
  - http://singaporedaily.net/
- *Group blogs/sites (~7)*
  - http://maruah.org/
  - http://www.theonlinecitizen.com/
  - http://www.temasekreview.com/
- *GE-oriented Sites (~7)*
  - http://easyapps.sg/sgep/
  - http://www.singapore-elections.com/
  - http://singaporeelection.blogspot.com/

- *Discussion Forums / Threads (~18)*
  - http://forums.hardwarezone.com.sg/forumdisplay.php?f=16
  - http://sgforums.com/forums/10
  - http://groups.google.com/group/soc.culture.singapore/topics?pli=1
- *Political Blogs (~80)*
  - http://yawningbread.wordpress.com/
  - http://leelilian.blogspot.com/
  - http:///www.mrbrown.com/
- *Party Websites (~8)*
  - http://www.pap.org.sg/
  - http://www.youngpap.org.sg/
  - http://www.wp.org.sg/
- *Facebook (~129 of them)*
- *Twitter (~650 of them)*
- *Others Politician, Semi-Political Blogs, Other Organizations, Wiki's.*

5

Issues and Keywords (I)

- Major Election Issues (14)

1. Cost of Living	"Cost of Living" OR expenses OR expenditure OR bills OR inflation OR GST OR "goods and services tax"
2. Foreign Workers	"Foreign Workers" OR "foreign labour" OR foreigners OR "immigration policy"
3. Rising HDB Prices	"Housing and Development Board" OR HDB OR housing OR flats
4. CPF	CPF
5. Healthcare	Healthcare OR health-care OR "health care" OR Medical OR medication OR medisave OR medifund OR medishield OR eldershield OR hospital OR hospitalized OR hospitalised OR polyclinic OR "national insurance"
6. Income Inequality	"Low Income" OR (poor AND rich) OR poverty OR "income inequality"
7. Education	Education OR streaming OR (teacher AND ratio) OR "students per class"
8. Economy	Economy OR Economic
9. National Service	"National Service" OR NS OR "Reservists" OR "Reservists Liability" OR conscription OR nsman OR nsmen
10. Transportation	Transportation OR Bus OR MRT OR taxi OR "Public Transport" OR ERP OR COE
11. Freedom of Speech	Media OR censor OR censorship OR "freedom of expression" OR "press freedom" OR "freedom of speech"
12. Gambling And Casino	gambling OR casino OR MBS OR "Marina Bay Sands" OR RWS OR "Resort World Sentosa"
13. Accountability	Transparency OR Accountability OR transparent OR accountable
14. First World Parliament	"First World Parliament" OR "First Rate Government" OR "Multi-party Parliament" OR "Multiparty Parliament"

6

3

Issues and Keywords (II)

- GRC's (14)
  - Aljunied GRC = "Aljunied"
- Political Parties (7)
  - People's Action Party = "Peoples Action Party" OR "PAP"
- Candidates (2)
  - "Tin Pei Ling"
  - "Nicole Seah"
- Candidate & Issues (11)
  - Accountability (Tan Jee Say) = (Transparency OR Accountability OR transparent OR accountable) AND ("Tan Jee Say")

→ Total number of issues = 48 and posts = ~890K

7

Granger Causality Test

**Chi-sq statistics for tests of multivariate Granger non-Causality**

Dependent:	Online Mainstream Media			Other New Media			FaceBook			Twitter		
Source of influence:	Other New Media	FaceBook	Twitter	Online Mainstream Media	FaceBook	Twitter	Online Mainstream Media	Other New Media	Twitter	Online Mainstream Media	Other New Media	FaceBook
Major Election Issues	61.858	114.18	49.606	98.212	67.555	97.696	304.02	89.271	99.434	396.84	200.14	196.89
GRCs	74.039	35.14	61.291	184.5	437.61	329.32	195.42	1172.2	838.65	101.58	950.96	632.73
Political Parties	61.804	92.203	79.594	67.601	153.6	118.76	104.58	79.333	675.2	117.09	140.12	947.67
Tan Jee Say with Major Issues	632.82	65.321	267.23	110.7	75.818	243.53	52.687	168.9	65.758	444.57	695.76	234.56

All chi-sq values are highly significant (at 0.1% level).
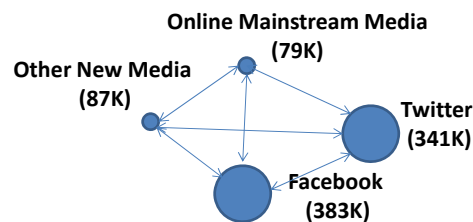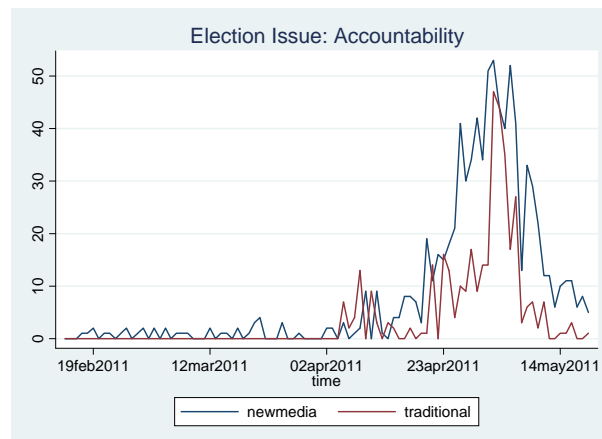

8

Overall Agenda Time Series Graphs
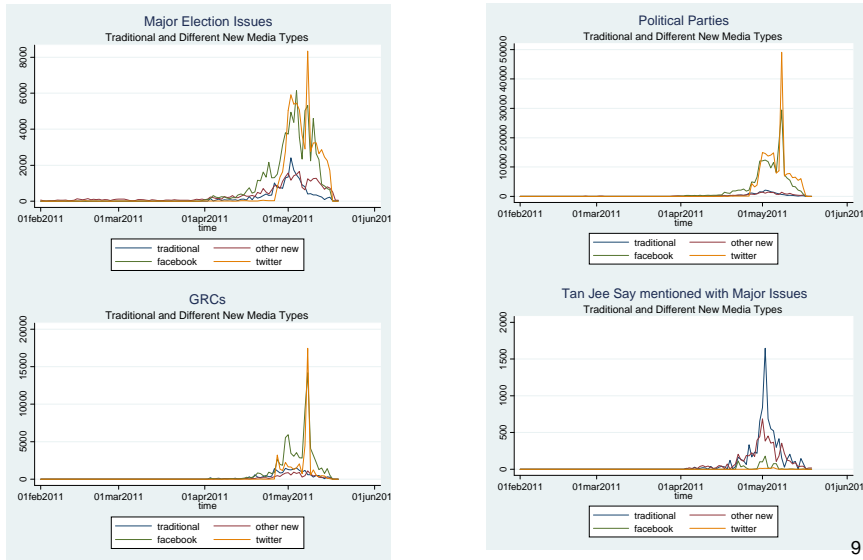
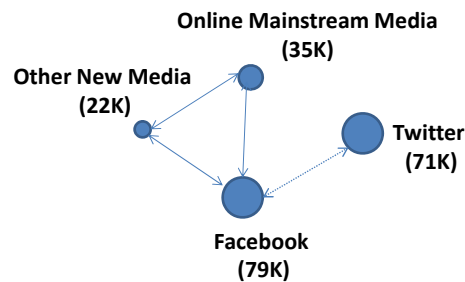*Single Issue Agenda Time Series Graph*

Inter-correlation Test

Major Election issues

	Online MSM	Other new	FB	Twitter
Online MSM	1			
Other new	0.661949	1		
FB	0.787361	0.778093	1	
Twitter	0.298652	0.095081	0.481859	1

Online Mainstream Media (35K)

Other New Media (22K)

Twitter (71K)

Facebook (79K)

Answer Statement

- Our results show that the overall agenda setting effect occurs in **both directions** between online mainstream media and new media. However, at the specific issue type and using classical inter-correlation test, *Twitter* can be shown to be *** less reflective*** of the other media types. These statistics are supportive of the realization of a growing trend in Singapore to adopt Facebook and Twitter as a prominent channel of communication and civic engagement.

Discussion on Agenda Setting

- Agenda Setting comprising of:
  - Media Agenda (which we studied, particularly interaction among Online MSM, Twitter and FB, and Other new media)
  - Public Agenda (can be studied via public opinion poll)
  - The Interaction between the above two (which we did NOT study)
- Media Agenda may, or may not, influence Public Agenda – factors to consider:
  - The existence of reasonably free and open media
  - The inertia of public opinions: silent majority
- Agenda Setting may, or may not, influence Political Participation
  - Past research have given varied opinions and explanations as why and how

13

Concluding Remarks and Future Work

- First reported quantitative study – via time-series analysis – on agenda setting for Singapore Election
- More data is being made available, and is needed!
  - Time consuming process to harvest data then "refining" them for analysis
- Extend this research to study diffusion mechanisms through integration of time-series and social network analysis
- Integrate research results with other members' to have a better pictures on agenda setting , public agenda and political participation

14

Thank You

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15