Getting out of the Cave:
Introduction to Concept, Theory, and Visualization of News Diffusion on News Sharing Website

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Outline

- Concept
- Theory
- Visualization
Plato’s metaphor: Mediated Communication

0 How do you know the outside world, e.g., Gadhafi’s death?
News diffusion

News diffusion is defined as the dissemination of news from the mass media to individuals through both the channels of mass media and interpersonal social networks.
Theory

0 Two-step flow (networks, mass media)
0 J-curve model (importance of news)
0 Diffusion of innovations (features of adopters)
0 **Threshold models** (social influence)
0 Epidemics models (**Becker, 1992**) (Information cascade, social contagion)
0 Don’t forget that we are living in the “cave”!
Unite and Get out the Cave!
Online Citizen Journalism

- News sharing website → online journalism → political participation → democracy.

- NSW users diffuse news stories by recommendations to collaboratively filter and redistribute news.

- ‘Citizen journalism’ refers to a range of web-based practices which users engage in journalistic practices, which includes blogging, photo and video sharing, and posting eyewitness commentary about current events.

- Citizens participate in re-posting, linking, ‘tagging’ (labeling with keywords), rating, modifying or commenting upon news materials posted by other users or by professional news outlets (Goode, 2009).

- ‘Participatory journalism’ (Willis, 2003).
News sharing website (NSW)

0 News sharing website (NSW) is both theoretically and practically defined, in this paper, as the social media on which users can submit, share, and transmit news through the underlying social networks.

0 NSW is also one kind of news aggregator, which is based on the function of search engine or other information syndication technologies, to facilitate news gathering, submitting, news processing, discussing, and news transmitting.
News aggregator

0 News sharing website users not only can obtain information from their online social networks,
0 but also get information from news aggregator directly (Lerman & Ghosh, 2010; Steeg, Ghosh, & Lerman, 2010).
Visualization

Case 1. news diffusion on Digg

http://weblab.com.cityu.edu.hk/blog/chengjun/essay
Heat Graph of News Diffusion

http://weblab.com.cityu.edu.hk/blog/chengjun/essay
Dynamic Diffusion Process: The rise and fall


digg<-read.csv(file="d:/micro-blog/digg/digg_diffusion_data_for_gvisAnnotatedTimeLine.csv", head=T,sep = "")
digg50<-subset(digg,digg$news_id<=50) #Select data
digg50$news_id<-as.character(digg50$news_id)
library(googleVis)
AnnoTimeLine <- gvisAnnotatedTimeLine(digg50, datevar="time",
numvar="num_sum", idvar="news_id",
titlevar="", annotationvar="",
options=list(displayAnnotations=TRUE,
legendPosition='newRow',
width=1000, height=600))
# Display chart
plot(AnnoTimeLine)
setwd("d:/micro-blog/digg/")
cat(AnnoTimeLine$html$chart, file="AnnoTimeLine_digg50.html")
Case 2: news diffusion of Weibo

http://rthk.hk/mediadigest/20110915_76_122789.html
Case 3 News Cascade of New York Times

http://nytlabs.com/projects/cascade.html
End

Thank you for your attention.
Case 4: Meme Tracker

http://memetracker.org/
News Aggregator: News Sharing Website’s Direct Influence

A News aggregator is one kind of content aggregator services which help users to find required information from a variety of information channels by gathering, organizing and processing the source information (Chowdhury & Landoni, 2006), based on the according technologies (e.g., RSS, social filtering, and search engine).
圖2：原創型微博的語義網絡

圖3：被轉發微博的語義網絡
News Diffusion on Digg