

Local News Online: Aggregators, Geo-Targeting and the Market for Local News

Lisa George

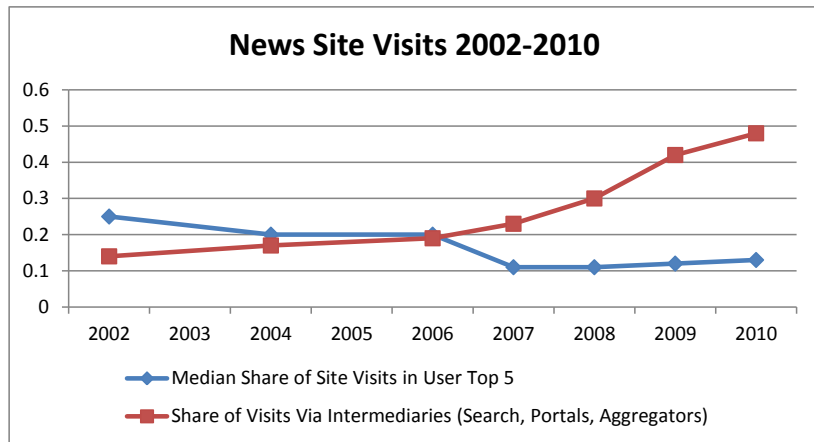
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April 3, 2014

Intermediation Trends



Source: Lisa George and Christiaan Hogendorn (2012). "Aggregators, Search and the Economics of New Media Institutions." *Information Economics and Policy*, 22(1) pp. 40-51.

Top US News Websites

Source: Experian Hitwise, 2012, from Pew State of the News Media, 2013.

Top News Sites 2012, Hitwise

Share and Total Visits

	Share	Total Visits
news.yahoo.com	9.96%	5,061,468,962
www.huffingtonpost.com	5.45	2,772,623,500
www.weather.com	3.80	1,937,665,856
www.msnbc.msn.com	2.13	1,096,295,903
www.cnn.com	2.02	1,006,425,806
gma.yahoo.com	1.70	871,463,749
www.foxnews.com	1.70	838,014,419
news.google.com	1.38	694,071,244
usnews.msnbc.msn.com	1.21	643,412,705
weather.yahoo.com	1.06	541,483,467
cityguides.msn.com	1.05	536,032,331
www.nytimes.com	1.04	522,225,600
www.drudgereport.com	0.98	481,470,727
home.now.msn.com	0.95	497,616,015
www.usatoday.com	0.82	420,809,971
www.accuweather.com	0.82	417,186,293
www.weatherunderground.com	0.81	412,512,889
abcnews.go.com	0.80	404,226,736
usnews.nbcnews.com	0.72	356,936,414
local.yahoo.com	0.72	367,295,141
www.people.com	0.67	341,541,090

Intermediaries: Theory

- Supply Side: Aggregators as Pirates?
 - Diminish incentives for content production
 - Complements vs Substitutes?
 - Content costly, bundling cheap
 - Esfahani-Jeon (2012), Rutt (2012)
- Demand Side: Aggregators as Bundlers
 - Reduce cost of locating content, improve matches
 - Content cheap, bundling & matching costly
 - George-Hogendorn (2012)
- Today: Role of relative prices / transaction costs

Intermediaries: Empirical Evidence

- Intermediaries affect outlets
 - Chiou & Tucker (2011): Google-AP contractual dispute reduced visits to AP.
 - Note: AP is an unbundled content source.
- Intermediaries affect consumers
 - Athey & Mobius (2012): Opt-in local toolbar on Google News (France) increases Google News usage, short-term local news consumption.
- Otherwise we know very little

Localism

- Policy concern about under-provision and under-consumption of local news
 - Antitrust rules, Ownership Rules, Cross-ownership
- Externalities
 - Political participation and engagement
- Market imperfections
 - High fixed costs; indivisibilities
 - High search costs


Experiment: June 28, 2010


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
Google news Search News Advanced news search

U.S. ▼ Top Stories

Top Stories

Supreme Court rules against Christian group that bars gays 
 Reuters - [James Vlasto](#) - 33 minutes ago
 WASHINGTON (Reuters) - A university can legally deny recognition to a Christian student group that bars gays and nonbelievers, the US Supreme Court ruled on Monday in a case that pitted anti-discrimination principles against religious freedom.
[Supreme Court rules against L.G. student group that refused to admit gays](#) Los Angeles Times
[Court, Christian groups aren't bar gays, say funding](#) The Associated Press
[Wall Street Journal](#) - [Miami Herald](#) - [CNN](#) - [CBS News](#)
[all 219 news articles »](#) [Email this story](#)



Supreme Court Rules That Gun Rights Apply to Local Laws 
 New York Times - [Adam Liptak](#) - 55 minutes ago
 The Supreme Court ruled on Monday that the Second Amendment, which forbids Congress from infringing the right to keep and bear arms, applies to state and local governments as well.
[Supreme Court extends reach of gun owners](#) Los Angeles Times
[Supreme Court: Second Amendment rights apply across US](#) Christian Science Monitor
[The Associated Press](#) - [HeraldExaminer](#) - [Atlantic Journal Constitution](#) - [Chicago Tribune](#)
[all 1,098 news articles »](#) [Email this story](#)

Kagan Senate hearings begin 
 USA Today - [Betsy Cohen](#) - 1 hour ago
 By Jack Driver, USA TODAY By Kathy Kelly, USA TODAY WASHINGTON - For Elena Kagan, adroit Ivy League super-achiever, it's the toughest oral exam she's ever faced.
[Kagan Fronts Senate Hearing on Supreme Court Hearings Begin](#) New York Times
[Elena Kagan: Texas Republican Critic as Supreme Court Hearings Begin](#) ABC News
[Wall Street Journal](#) - [Baltimore Sun](#) - [The Atlantic](#) - [CBS News](#)
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Justices Take Broad View of Business Method Patents
 New York Times - 23 minutes ago
[Federer and Clusters Advance on a Busy Day](#)
 New York Times - 46 minutes ago

2010 FIFA World Cup South Africa™
[FIFA.com](#) - [Schedule](#) - [Standings](#) - [Teams](#)





Round of 16

 Brazil	0 : 0	 Chile	Live
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Latest Matches

 Netherlands	2 : 1	 Slovakia	Highlights
 Argentina	3 : 1	 Mexico	Highlights


Upcoming matches



June 29 07:00 (Pacific Time) on ESPN	
 Paraguay	vs.  Japan
June 29 11:30 (Pacific Time) on ESPN	
 Spain	vs.  Portugal

In The News


BET Awards	Robert C. Byrd
Chris Brown	Crista Kerr
Robert Byrd	Michael Jackson
Elena Kagan	Vince Neil
Jennifer Capriati	Ruben Wolkow

[Crisis response: Gulf of Mexico oil spill](#)

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World » 
[Total says it has halted petrol sales to Iran](#) 
 ABC - 4 hours ago

Local News »
 View stories near: City, State, or Zip Code

U.S. »
[Byrd's absence could be problematic for financial regulation bill](#) 
 McClintock Press - 4 hours ago

Format since February 2008, “Opt-in” Local Content

<http://web.archive.org/web/20100628184607/http://news.google.com/>

Experiment: July 2, 2010

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Google news Search News

ADVERTISING TERMS SERVICE

Top stories

Hurricane Alex makes landfall along Mexican coast
 Washington Post - 12 minutes ago
 Hurricane Alex churned westward through the Gulf of Mexico as Gulf Coast residents and oil cleanup workers brace for the storm. The Associated Press (AP) - "Pumpkins say the 3rd Atlantic hurricane of the season has made landfall in northeastern Mexico, sparking expected soon Houston Livestock Showers.
 Storm hampers Gulf of Mexico oil spill cleanup Reuters
 ABC News - Wall Street Journal - New York Times - AP
 38 10,760 news articles »

House passes financial overhaul; Senate leaders postpone vote
 Washington Post - New York Times - Los Angeles Times - 57 minutes ago
 The House approved new financial regulations Wednesday, but Senate leaders postponed a vote on the bill, preventing the landmark legislation from reaching President Obama's desk until at least mid-July.
 ABC News - BBC News - Los Angeles Times (blog) - USA Today
 all 1,192 news articles »

Muslim cleric Anwar al-Awlaki is linked to Christmas Day bomb attempt
 Washington Post - Greg Miller, Spencer S. Hsu - 16 minutes ago
 A radical Muslim cleric who was born in the United States and resides in Yemen "had a direct operational role" in the attempted bombing of a Detroit-bound airliner on Christmas Day, a senior US counterterrorism official said.
 Los Angeles Times - The Associated Press - Washington Times - CNN
 all 528 news articles »

News for you View as: List - Sections

Setup progress

This section will adapt to show news about your interests. Choose how often you like to read news from each section and add topics you follow.

Add any news topic All

News section Astronomy, New England Patriots, World Cup

News often do you read:

	Never	Sometimes	Always
U.S.	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
U.S.	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Business	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
SciTech	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Entertainment	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Sports	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Health	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>

Reset personalization Done

Recent U.S. edition ▼ Add a section ▼

Storm hampers Gulf of Mexico oil spill cleanup
 Reuters - Times Mirror, Steve Gorman - 16 minutes ago

Portugal recommends Medal of Honor for a Texas worker
 Washington Post - Greg Miller, Greg Siskind - 23 minutes ago

House Approves New Rules for Wall Street
 ABC - The Wall Street Journal - 21 minutes ago

2010 FIFA World Cup: South Africa™
 FIFA.com - Schedule - Standings - Teams

Round of 16

Spain	1-0	Portugal	Highlights
Paraguay	0 (5) - (3) 0	Japan	Highlights
Mexico	3-0	Chile	Highlights

Upcoming matches

Quarter-finals
 Jul 2 7:00 AM (Pacific Time) on ESPN
 US Brazil

Semi-finals
 Jul 2 11:30 AM (Pacific Time) on ESPN
 Uruguay vs Ghana

San Francisco Bay Area - Full

52°F Thu 62°F Fri 64°F
 60°F | 61°F | 62°F | 61°F | 64°F

Risk of poach in cell phone legislation
 San Francisco Chronicle - Andrew R. Ross - 64 minutes ago

San Francisco
 Main editorial is used in apparent jump.com
 8/2/10 10:00 AM

San Francisco Chronicle - Jason Van Derbeek - 2 hours ago - 30 news articles

Advertises say fines approved in courthouse
 San Jose Mercury News - 1 hour ago



July 1, 2010, "Geo-targeted Content"

Data: Households and Domains

- Household Site Visits
 - Comscore MediaMetrics from WRDS Complete Browsing History
 - Zipcode (MSA), Demographics
 - Sample: 24,859 hh (in MSA, 10+ News Visits)
- Google News page
 - Scrape from Wayback Machine
 - 628 days, 3,750 domains
- New Domains
 - Burrelle's, Bulldog, NAA, Technorati, Google News
 - Inclusive sample, top-level domains

Data: Google News Referrals

- Google News referrals identified from referral field plus Google News scrapes
 - Referral field or visit lag identifies Google (news and search) referrals
 - Scraped archived Google News pages identify linked domains
 - Google News referrals are visits referred by Google to domains appearing on Google News
- Limitations
 - Click through (-), updating (+/-), domain-level (+)

Data: Defining “Local” Media

- Identify home MSA for domains
 - Calculate share of visits to each domain from each MSA
 - Identify MSA with highest share for each domain
 - If MSA Share > 15%, classify as local to that MSA (90%)
- Identify local news visits
 - A visit is local if household MSA = Domain MSA
- Notes and caveats
 - Revealed preference measure of localism
 - National media, wire services

Local Visit Shares

Outlet	Market	Total Visits	Local Visits	Local Share
NY Daily News	New York, NY	23,474	5,315	0.23
LA Times	Los Angeles, CA	23,471	5,179	0.22
Washington Post	Washington, DC	21,963	5,549	0.25
Nj.com	Newark, NJ	15,510	3,408	0.22
Boston Globe	Boston, MA	14,448	5,131	0.36
Atlanta Jour. Const.	Atlanta, GA	12,088	8,228	0.68
KSL	Salt Lake City, UT	10,845	7,739	0.71
Arizona Central	Phoenix, AZ	9,052	5,577	0.62
Chicago Tribune	Chicago, IL	8,680	3,895	0.45
Houston Chronicle	Houston, TX	8,247	5,041	0.61
Cleveland Plain Dlr.	Cleveland, OH	7,389	3,705	0.50

Data: Intermediation

- Two identification strategies
 - Treatment (Google News) & Control (Yahoo) households
 - Google News Intensity (all households)
- Google News referrals identified from referral field plus Google News scrapes
 - Referral field or visit lag identifies Google (news and search) referrals
 - Scraped archived Google News pages identify linked domains
 - Google News referrals are visits referred by Google to domains appearing on Google News
- Limitations
 - Click through (-), updating (+/-), domain-level (+)

Household Sample Statistics

2010 Totals	N	Mean	SD	5%	95%
News Visits	43,087	125.22	275.98	3.00	490.00
Local News Visits	43,087	19.51	90.94	0.00	72.00
Days w/ News Visit	43,087	51.56	60.13	2.00	184.00
Days w/ Local News Visit	43,087	10.76	32.18	0.00	49.00
Local Visit Share	43,087	0.11	0.17	0.00	0.50
Google Referral Share	43,087	0.29	0.26	0.00	0.77
Local Share of Google Referrals	35,645	0.08	0.16	0.00	0.38
Google News Referral Share*	39,773	0.03	0.07	0.00	0.15
Local Share of Google News Referrals*	17,805	0.03	0.14	0.00	0.25

*Calculated before re-design

Outlet Sample Statistics

<i>All Outlets</i>	N	Mean	SD	5%	95%
News Visits	6,407	842	4,912	11	2,708
Local News Visits	6,407	117	121	10	363
Local Visit Share	6,407	0.39	0.32	0.00	0.94
Prob. of Google News Link	6,407	0.13	0.34	0.00	1.00
Google News Referral Share*	6,383	0.002	0.019	0.00	0.004
<i>Google News Outlets</i>					
Google News Referral Share*	673	0.022	0.055	0.00	0.122
Local Share of Google News Referrals*	474	0.163	0.317	0.00	1.000

*Calculated before re-design

Treatment and Control Sample

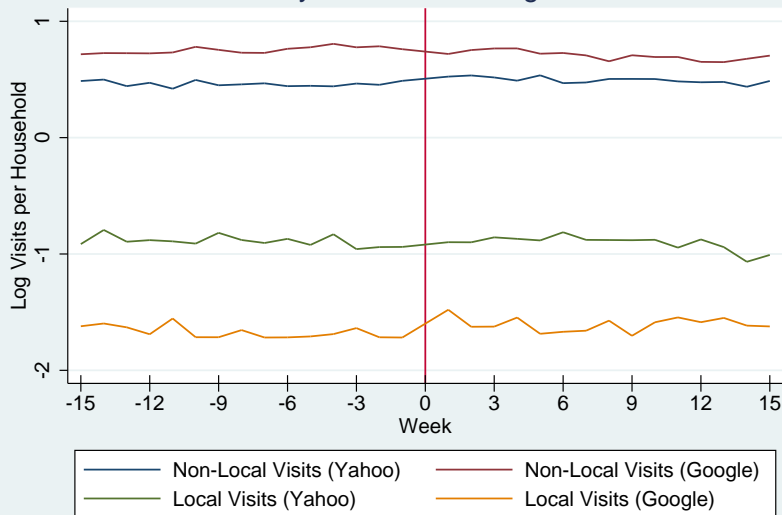
	<i>Google News Sample</i> <i>3,593 Households</i>		<i>Yahoo Sample</i> <i>3,885 Households</i>	
	Mean	Std. Dev.	Mean	Std. Dev.
News Visits	0.255	1.13	0.259	0.99
Local News Visits	0.022	0.21	0.052	0.34
Local Visit Share	0.085	0.25	0.195	0.36
News Visit Probability	0.112	0.32	0.128	0.33
Local News Visit Probability	0.015	0.12	0.034	0.18

Estimation

$$Y_{it} = \beta_0 + \beta_1 Post + \beta_2 PostX + \tau + \gamma_i + \epsilon_{it}$$

- Y_{it} = local news consumption household i day t
 - Number of local news visits (log+1)
 - Probability of a local news visit
 - Share of visits to local news sites
 - Share of Google referrals to local news sites
- Treatment specifications
 - Google News and Yahoo Users (limited sample)
 - Google News referral share pre-treatment (full sample)

News Visits by Yahoo and Google News Users



Results: Do Geo-Targeted News Links Increase Local Visits Among Google News Users?

	Local Visit Log (1)	Local Visit Prob. (2)	Local Visit Share (3)
Post Treatment	0.0014 (0.001)	0.0008 (0.002)	0.0215*** (0.008)
Post x Google News	0.0025*** (0.001) [0.25%]	0.0029*** (0.001) [20%]	0.0033 (0.004) [4%]
Time Trend	-0.0040*** (0.001)	-0.0039*** (0.001)	-0.0161*** (0.004)
Constant	0.0167*** (0.001)	0.0200*** (0.001)	0.1356*** (0.005)
Households N	7,635 1,504,095	7,635 1,504,095	7,478 177,440

(% effect on intense Google News users in brackets.)

Results: Does the Effect of Geo-Targeted News Links Increase with Google News Use?

	Local Visits Log (1)	Local Visit Prob. (2)	Local Visit Share (3)
Post Treatment	-0.0003 (0.001)	-0.0001 (0.001)	0.0073*** (0.003)
Post x Google News Share	0.0111*** (0.003)	0.0113*** (0.003) [1.1%]	0.0222* (0.013) [0.25%]
Time Trend	-0.0026*** (0.000)	-0.0027*** (0.000)	-0.0045*** (0.002)
Constant	0.0252*** (0.000)	0.0271*** (0.000)	0.1357*** (0.002)
Households N	38,648 7,613,656	38,648 7,613,656	37,862 1,169,579

(% effect at mean Google News intensity in brackets.)

Do Local Links Increase Consumption Variety?

	Local Outlets/Day		Local Outlets/Month	
	(1)	(2)	(3)	(4)
Post Treatment	0.0010 (0.001)	-0.0002 (0.001)	-0.0015 (0.008)	-0.0044 (0.003)
Post x GNews	0.0025*** (0.001)		0.0038 (0.007)	
Post x GNews Share		0.0090*** (0.002)		-0.0124 (0.016)
Time Trend	-0.0035*** (0.001)	-0.0021*** (0.000)	-0.0122*** (0.005)	-0.0061*** (0.002)
Constant	0.0155*** (0.001)	0.0212*** (0.000)	0.0982*** (0.004)	0.1250*** (0.002)
Households N	7,635 1,504,095	38,648 7,613,656	7,635 53,445	38,648 270,536

More frequent visits to familiar outlets, not introducing new outlets?

Conclusion and Extensions

- Intermediaries are important in news markets
- Consumption costs matter
- Low local news consumption by Google News users
- Geo-targeting affects local news consumption
 - Effect is small
- Do New Aggregators favor variety?
 - Geo-targeting has no effect on montly news variety
 - Google News has short tail compared with organic
 - Google News links to bigger, more “serious” sites