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Weak signals in innovation journalism – Cases Google, Facebook and Twitter

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1 Introduction

“A couple days ago, we pointed to Mooglets widgets, the creation of Rome-based Mad4milk.net. Today, we are shocked to learn that Mad4milk has been acquired by Freewebs. The Web host says it will repackage Mad4milk's JavaScript effects library, offering developer community site Freewebs Farms, and soon a widget library.”

What in the name of Moses is going on? Not even educated tech veterans can keep track anymore. Mooglets? Widget libraries? Mad4milk? Is this a scene from Harry Potter and the Stoned Venture Capitalists?

There is so much coming so fast from so many corners that nobody can possibly keep track, much less ever, ever try using it all.

You can tell that some insiders sense a bubble-ishness in the air.

(Kevin Maney in the *USA Today*, August 2006)¹

According to functional-structural social theory, news content is information that seeks to meet social needs. News selection occurs on several levels and journalists have professional guidelines and standards that mediate their subjectivity. Traditionally research has emphasized journalists' and editors' roles as “gatekeepers” of news selection. In can be argued that the main critical question regarding news is whether there is a consensus on how news is defined and who creates and controls news production and news content.²

Silicon Valley, on the San Francisco Peninsula, is famous about its innovative companies, and its ability to create new industries.³ In similar fashion news is the

¹ Maney, Kevin. 30.8.2006. Tech industry spews Web companies, doohickeys so fast we can't keep up. *USA Today*.

² Nossek, Hillel. 2008. "News." *The International Encyclopedia of Communication*. Donsbach, Wolfgang (ed). Blackwell Publishing,. Blackwell Reference Online. 20 October 2008.

³ Lee et al. 2000. *The Silicon Valley Edge. A Habitat for Innovation and Entrepreneurship*. Stanford University Press, Stanford; Lécuyer, Christophe- 2006. *Making Silicon Valley. Innovation and the Growth of High Tech, 1930–1970*. The MIT Press, Cambridge –London. Lacy, Sarah. 2008. *Once you're lucky, twice you're good. The rebirth of Silicon Valley and the rise of WEB 2.0*. Gotham Books, London.

backbone of journalism.⁴ For the news media, without any questions, Silicon Valley offers a good and continuous source of interesting stories. However, the problem could be how to find the biggest “scoops” among the many thousands of inventive start-ups very often dealing with same kind of products. This paper will focus on this dilemma.

However, it is elementary that we first define the key concepts. To be sure, innovation journalism is journalism about innovations and innovation ecosystems.⁵ It has also been argued that innovation journalism is future-oriented in its very nature, and it can benefit of the concept of weak signals.⁶

Igor Ansoff (1975, 1980a, 1980b, 1990) was first to argue that the information as having two extreme levels: strong signals and weak signals. In his opinion, strong signals were “sufficiently visible” and “concrete”, and weak signals are “imprecise early indications about impending impactful events”. Ansoff believed that weak signals may mature over time and become strong signals. His five different stages of signals were:

- 1) the sense of a threat/opportunity is felt;
- 2) the source of the threat/opportunity is known;
- 3) the shape of the threat/opportunity becomes concrete;
- 4) the response strategies are understood; and
- 5) the outcome of the response is predictable.⁷

“Weak signals” are considered to be early indicators of, “symptoms” of, or “a soft form of information” about coming events. They are often minor events that may have major consequences. Weak signals are problematic because they are difficult to distinguish from the masses of information. That is why they are easily missed.⁸

⁴ Gans, Herbert J. (1980) *Deciding What's News. A Study of CBS Evening News, NBC Nightly News, Newsweek and Time*. Constable, London; Read, Donald. (1992) *The Power of News. The History of Reuters 1849–1989*. Oxford University Press: Oxford; Shoemaker, Pamela & Reese, Stephen. (1991) *Mediating the Message: Theories of Influences on Mass Media Content*. Longman: New York; Volkmer, Ingrid. (1999) *News in the Global Sphere: A Study of CNN and its Impact on Global Communication*. Luton University: Luton.

⁵ Nordfors, David. 2004. “The Role of Journalism in Innovation Systems”, *Innovation Journalism*, Vol 1. No. 7, December 2004; Nordfors, David et al. 2006. *Innovation Journalism: Towards Research on the Interplay of Journalism in Innovation Ecosystems*. Vol. 3, No. 2. May 2006.

⁶ Uskali, Turo. 2005. *Paying Attention to Weak Signals – The Key Concept for Innovation Journalism*. *Innovation Journalism* Vol. 2, No. 11, pp 1-19.

⁷ Ansoff, Igor. 1975. *Managing Strategic Surprise by Response to Weak Signals*. *California Management Review*. 18, No. 2, 21-33.

⁸ Hiltunen, Elina. 2001. *Heikkojen signaalien käyttö yrityksissä*. *Futura* 2001:1, 45–50; Nikander, Ilmari O. 2002. *Early Warnings. A phenomenon in Project Management*. Doctoral dissertation. Helsinki University of Technology. Yliopistopaino. Helsinki.

Interestingly, Ansoff did not execute any empirical research on weak signals, and surprisingly, only now, decades after Ansoff's writings, the empirical research is taking off. For example, Uskali (2005) pioneered the link between weak signals concepts in classical strategy and efforts to use this idea to understand critical aspects of journalism. Based on small empirical work he argued that Ansoff's original work that pointed to five different levels of signals could be diminished into four in the context of journalistic products: 1) feeling, or hunch signals, 2) uncertain signals, 3) almost certain signals, and 4) exact signals.⁹

Another research by Uskali and Ojala (2007) traced possible weak signals in the articles of *The New York Times* before the stock crashes of 1929, 1987 and 2000. The authors concluded for example that "there were only a few weak signals in *The New York Times* before the 1929 stock crash", and "the most valuable signals were usually hidden inside the reports and were not published on the front pages." In addition, "however, in October 1929 many stock columns in *The New York Times* contained numerous different signs of a coming change, and these signs were also already prominent in the lead sentences of the stories". Finally, the authors argued that "So, when the crash finally occurred, it should not have come as a big surprise to careful readers of *The New York Times*".

Interestingly, the research on financial bubbles is now considered of primer importance among economist. *The Wall Street Journal* (16.5.2008) reported in a front page story that economists traditionally haven't offered much insight to financial bubbles, but the dot-com boom began to change that. And, according to the story "Now, the study of financial bubbles is hot, and its hub is Princeton".

Furthermore, Uskali and Ventresca (2008) tested the use weak signals as a heuristic tool to study the case of "subprime" lending "bubble" from the point of "subprime" journalism. In conclusion, it took quite a long time for the mainstream news media to recognize the risks behind the aforementioned financial innovation. However, first wave of warnings did occur already 1996, when the leading subprime car loan lenders disclosed first financial problems. However, the very first outlets to mention, and warn, about the risks hidden inside this new financial innovation, were not traditional news outlets, but special trade journals like *Credit World*, and *American Banker*.¹⁰ This finding confirms previous research results made by Mäkinen et al. (2007) about technological innovations. According Mäkinen et al., "trade publications can be used to obtain early signals on the future of technological innovations."¹¹

⁹ Uskali, Turo. 2005. Paying Attention to Weak Signals – The Key Concept for Innovation Journalism. *Innovation Journalism* Vol. 2, No. 11, pp 1-19.

¹⁰ Uskali, Turo & Ventresca, Marc. 2008. Weak Signals in Innovation Journalism -The Lessons of "Subprime" Lending Innovation. Unpublished work paper for The Fifth Conference on Innovation Journalism. Stanford University. May 21.-23.2008.

¹¹ Mäkinen, Saku, Järvenpää, Heini, Ojala, Jari, and Uskali, Turo. 2007. Spotting weak signals considering new technological innovations: An empirical search for appropriate

In order to study the news flows, and weak signals in journalism we need reliable news storage. In this case we will rely on digitalized news archive called Factiva. It is a collection of more than 25,000 news and other sources including the combination of *The Wall Street Journal*, *the Financial Times*, Dow Jones and Reuters newswires and the Associated Press.¹² In addition, also the New York Times' digital news archive was used as double-check several facts.

Digital news archives offer the opportunity to quantify a large corpus of news material quickly and systematically. Search and the use of key words is the key activity in this research. In general key word searching is best suited for identifying people, places, and events, but also all other 'things' with a clear name like companies. The most widely used text-based digital news archive in social scientific research is Lexis-Nexis. However, recent comparative research has identified some problems in its use, for example missing news material, but also duplicated items.¹³ It is good to keep in mind that also digital news archives can be imperfect or fragmentary.

Next, the author of this paper will focus on three case studies (Google, Facebook, and Twitter) in order to create better understanding of the relationship between innovations, journalism and weak signals in local (Silicon valley) and global innovation ecosystems. In other words, the focus will be on the evolution of innovation news, especially about innovative start-ups.

2 When Google, Facebook and Twitter entered to the news

For starters, there is already growing literature about Google¹⁴, Facebook¹⁵ and Twitter¹⁶. Naturally, the very first books are often mainly how-to-do-it guide books

sources. Unpublished work paper for The Fourth Conference on Innovation Journalism. Stanford University. May 21.-23.2007.

¹² <http://factiva.com/about/index.asp?node=menuElem1098>, ref. 27.4.2009.

¹³ Deacon, David. 2007. Yesterday's Papers and Today's Technology: Digital Newspaper Archives and 'Push Button' Content Analysis. *European Journal of Communication* 22;5, 5-25.

¹⁴ Battelle, John. 2005. *The Search: How Google and Its Rivals Rewrote the Rules of Business and Transformed Our Culture*. Penguin, New York; Vise, David A. & Malseed, Mark. 2005. *The Google Story: Inside the Hottest Business, Media, and Technology Success of Our Time*. Delacorte Press, New York; Jarvis, Jeff. 2009. *What Would Google Do?* Collins, New York.

¹⁵ Shih, Clara. 2009. *The Facebook Era: Tapping Online Social Networks to Build Better Products, Reach New Audiences, and Sell More Stuff*. Penguin, Boston.

¹⁶ Comm, Joel. 2009. *Twitter Power: How to Dominate Your Market One Tweet at a Time*. John Wiley & Sons, New Jersey.

either for marketers, or ‘common consumers’. However, I will argue that even if Google has already interested serious writers like well-established journalists, the time for more scientific academic research is still to come. Furthermore, we know only surprisingly little for example the early journalism about Google, Facebook, and Twitter, especially in the very beginning of the very companies. To be sure, the aim of this paper is to fill these empty pages.

2.1 Google – since 1998

Google was first incorporated as a privately held company on September 4th, 1998. It was co-founded by Larry page and Sergey Brin while they were still students at Stanford. At that time, in the end of millennium, the web surfers were still often frustrated when searching relevant information the web.¹⁷

According to the Factiva news archive the first story mentioning ‘Google’ was published by *Business Week* September 28th in 1998. In a short news story (273 words) Google was referred only in the last paragraph:

“There's another ranking system that may be even better for managers. **Google** (<http://google.stanford.edu/>) rates Web sites by the number of other sites linked to them. The rankings, in other words, are determined not by surfers, but by Webmasters who presumably took time to evaluate a site before setting up a link to it. It's an adaptation of the time-honored practice of assessing scientific papers by the number of citations they've gotten in other papers.”¹⁸

A new company entering to the news could be a weak signal, but obviously, hundreds or even thousands of companies, services, and products do this every day. To pick up the one with the most future potential, is like search a needle from a haystack. Of course more information is often produced than the plain name. In this case some extra sentences are provided for the reader to understand better what kind of service is called Google. Nonetheless, and without any hesitation, I will argue that this first piece of news about Google was not understood as a weak signal of a coming change, but, actually, it was.

Red Herring was the next to write about Google. The weekly magazine was focused on the business of funding, and start-ups. According to the Wikipedia *Red Herring became a journal of record for the dot com boom*.¹⁹ Red Herring noticed

¹⁷ Find it on the Web. 1.12.1998. PC Magazine.

¹⁸ *A search engine gets a search engine*. 28.9.1998. Business Week. Vol. 81, number 3597.

¹⁹ [http://en.wikipedia.org/wiki/Red_Herring_\(magazine\)](http://en.wikipedia.org/wiki/Red_Herring_(magazine)), 14.5.2009.

and reported about Google first time October 16th, the name of the start-up was also mentioned in the headline: *Google Graduates*.

“Stanford University should start a department of search engine technology. The last couple of times Stanford grad students experimented with technology to search and categorize the Web, Yahoo (YHOO) and Excite (XCIT) were born. They're now both companies with multibillion-dollar market capitalizations. The university has just spawned a third search engine company, **Google**.”²⁰

Newswire followed the steps of *Red Herring* in October 20 with its story *Google eyes Yahoo's search engine market*. *Information World Insider* mentioned Google briefly among dozens of other new Internet search companies in a story called *Search insider* November 1st, and in similar vein, *Computer Weekly* made a long story about search companies November 5th, *Looking for clues to searching questions*.

Another special techno magazine *PC World* awarded Northern Light as Editor's Choice in end of 1998. It was the second consecutive year *PC Magazine* recognized Northern Light as the best research tool.²¹ However, the magazine run also a minor story about “a promising new site” called *Google.stanford.edu*. Fun enough, Google was typed in the text as Yahoo! with exclamation mark.²²

Google!, an ongoing research project at Stanford University, helps you access the most relevant finds more quickly, and rivals Yahoo! for finding that handful of key sites you may be looking for.

Red Herring followed its Google story December 17th, when Google (then a three-month-old-startup) was about to move out of its Stanford lab into Silicon Valley offices. The magazine also noted that Google and its MIT competitor Direct Hit were both focusing on to solve the same problem – the computers lack of ability to judge relevance of the search results. These two companies were defined as “second-generation search engine startups”. Also in the story, CEO Larry Page mentioned that Google was seeking a first round of venture capital in the first half of 1999.²³

Rocky Mountain News was the first newspaper to mention Google outside the Silicon Valley.²⁴ Others followed *The Christchurch Press*²⁵, and *Denver Post*²⁶.

²⁰ Rail-Allen, Georgie. 16.10.1998. Google Graduates. Red Herring.

²¹ Northern Light Wins PC Magazine Editors' Choice Award. 24.11.1998. PRNewswire.

²² Google! 1.12.1998. PC Magazine; Basch, Reva. 1.3.1999. Honoring Our Ancestors. Online.

²³ Raik-Allen, Georgie. 17.12.1998. Search Engines Graduate to funding. Red Herring.

²⁴ My Cyberlife: Randy Cassingham. 14.12.1998. Rocky Mountain News.

To arrive at a more fully informed understanding of the news about Google during the first months, here is a list of appearances of the company in trade press and popular press during January and February 1999.

- 1.1.1999 *Online*: Internet Search Engine Update,
- 1.1.1999 *Computer Shopper*: Hot off the Wire: Search tools and portals seek more accurate results
- 11.1.1999 *Washington Post*: 40 Webmeisters Master a Research Challenge
- 12.1.1999 *USA Today*: Changing shape of the Web in '99
- 21.1.1999 *Law Office Technology Review*: Web of the Week
- 21.1.1999 *The Guardian*: NetWatch – World Web News in Brief
- 22.1.1999 Stanford University: Stanford U. grads launch search engine Google.com
- 22.1.1999 *Washington Post*: Googly Eyes
- 24.1.1999 *Washington Post*: Business at Cyberspeed; Brainstorms Becomes Quick Internet Hit
- 25.1.1999 PR Newswire: Northern Light is Now the Largest Search Engine Database on the Web
- 26.1.1999 *Roanoke Times & World News*: County Library has Magazine-browsing computer service
- 27.1.1999 *CMP TechWeb*: Google.com: Next Brainchild To Go Big?
- 1.2.1999 *Information World Review*: Feeling lucky?
- 1.2.1999 *InfoWorld*: The Web Hotlist Web sites worth checking out
- 1.2.1999 *Insight Magazine*: Overcoming InfoGlut.com
- 3.2.1999 *Bangkok Post*: Internet Site of the Week
- 7.2.1999 *The Economic Times*: Search engines with smarts
- 8.2.1999: *Business Week*: Search engines with smarts. A number of new Web sites make it easier to find those elusive facts

²⁵ Marshall, Robin. 15.12.1998. Don't take it out on your PC. The Christchurch Press.

²⁶ Plugged In. 21.12.1998. Denver Post.

9.2.1999 *PC Magazine*: The Top 100 Websites: Search Engines

18.2.1999 *The Toronto Star*: MP3 news moving fast and furious

18.2.1999 *The Guardian*: How to be a happy hunter

22.2.1999 *Newcastle Herald*: Express Delivery

22.2.1999 *Newsweek*: Free PCs ... for a Price : A clever scheme raises the question of whether people or advertising come first on the Web.

22.2.1999 *Washington Post*: Search, and Now You Find the Right Stuff

23.2.1999 *The Grand Rapids Press*: Next-generation search engines help job seekers

From this perspective we can argue that newspapers in the U.S. and abroad mentioned Google already widely in the beginning of 1999. *The Guardian* from the United Kingdom was the first foreign newspaper to publish news about Google, *Bangkok Post*, and Indian *The Economic Times* followed. As has been shown Google was introduced to international audience just couple of months later than in the U.S.

Interestingly, *the Washington Post* was the first to answer the most important question about Google's future already January 22nd 1999, in the very last sentence of a story: "Bonus: **Google**, still in testing, has no ads".²⁷ In hindsight this can be interpreted as a weak signal of a coming change. As has been shown, ads have been the most lucrative source of revenue for Google. Furthermore, the *Washington Post* was the first big newspaper to mention Google, already January 11th.²⁸

In comparison, *The New York Times* mentioned Google first time to its audience not sooner than July 22nd ²⁹, and only briefly in a feature story: "To find just the right link, Ms. Halpert uses a search engine -- usually **Google**, her favorite." In hindsight, this could also be interpreted as a weak signal of the growing importance of the search company. My argument, here, is that if a web intellectual, an early adopter of new web services, is using the new search engine and already ranking it as the best one, sooner or later, the rest of the web surfers will eventually do the same.

However, according to the digital news archives of Factiva and *The New York Times*, one can argue that the newspaper of record did not understand the potential of Google until 2002. For example, in one story January 2000 Google was even

²⁷ Googly Eyes. 22.1.1999. Washington Post.

²⁸ 40 Webmasters Master a Research Challenge. 11.1.1999 Washington Post.

²⁹ Hafner, Katie. 22.7.1999. I Link, Therefore I Am. A Web Intellectuals Diary. New York Times.

seen as a “cyborg”. Using unnamed sources, “most information scientist”, reporter concluded that Google’s web page ranking technology is not a good one, but only the “tyranny of the majority”.³⁰

Of course, putting everything in context, after the “dot-com bubble” burst, 2000-2001, it was natural that the mainstream media journalists were exceptionally careful in writing about the future potential of the new internet companies. Another kind of important fact is that Google was a private company until 2004, and it did not have to disclose its financial numbers that precisely. Furthermore, its strategy has been - secrecy. According to *The New York Times* in 2006:

Google's inclination to secrecy began in its days as a private company in an effort to keep its rivals from determining the profits it was making from Web search advertising. But its culture of secrecy has grown to pervade virtually all of its dealings with the news media and even its business partners.³¹

The same *NY Times* journalist, who wrote the critical story about the search engines as cyborgs, changed her tone slightly April 2002 by telling that “Google looks like the king of search engines these days.”³² In another, more detailed story, a couple of days later, Saul Hansel wrote that Google was “Silicon Valley's hottest private company”. He argued already in the headline that *Google's Toughest Search Is for a Business Model*.

But the bigger question is whether Google has the scale to capture a viable share of the search advertising market. In other words, can Google create a business model even remotely as good as its technology?³³

In essence, these were the most important questions for Google at that time and keys to beat the competitors in search business. Hansel was also able to predict quite well the near future of the company based on weak signals he was able to detect while gathering information to his story.

And the whisper is that when Google finally does go public, probably in the next year or so, it will make its debut with a multibillion dollar valuation.

³⁰ Guernsey, Lisa. 29.1.2000. *The Search Engine as Cyborg*. The New York Times.

³¹ Markoff, John and Hansel, Saul. 14.6.2006. *Hiding in Plain Sight, Google Seeks More Power*. The New York Times.

Krazit, Tom. 8.5.2009. Google Chrome ads coming to TV. CNET.com.

³² Guernsey, Lisa. 4.4.2002. *Upstart Search Engines Try to Topple Google*. The New York Times.

³³ Hansel, Saul. 8.4.2002. *Google's Toughest Search Is for a Business Model*. The New York Times.

One can argue that *NY Times* serves as a proxy for U.S. news in general, but not in the case of Google, not at last until 2002. Surprisingly, *the Washington Post* was in the forefront with its first Google stories. In addition, however, I would like to argue that the piece of journalism made by Hansel 2002 about Google for the *NY Times* can be seen as a text book example of good innovation journalism. Also the story about Google's strategic secrecy in 2006 was a good sample of good innovation journalism by the very same Saul Hansel with John Markoff. However, now we are already slightly drifting beyond the means of the current project, weak signals.

In any case, in year 1998 only 13 stories were published mentioning Google. Year later the number of the news was 534, and in year 2000 Google exceeded for the first time the 1000 mark with 2142 stories mentioning its name. No wonder, the company did not need any paid advertising to create its brand.

Google offers a valuable starting point for next cases: Facebook and Twitter.

2.2 Facebook – since 2004

According to the Wikipedia the advent of Facebook came about as a spin-off of a Harvard University version of Hot or Not called Facemash. Mark Zuckerberg founded "The Facebook", originally located at thefacebook.com, on February 4, 2004.³⁴

The first story mentioning Facebook in the Factiva news archive was dated March 5th: "Stanford U.: *Web site allows students to make friends from faces in the crowd*". The story was circulated by U-Wire (University Wire), which supplied articles from more than 250 college newspapers in 47 states in the U.S.

In the U-Wire story Zuckerberg said that:

‘There has been a bunch of hype at Harvard for the last few months about the administration putting together an online facebook for everyone in the school,’ Zuckerberg said. ‘I got tired of waiting for them to finally put it up, so I just threw this site together myself.’

According to the story Zuckerberg launched the site on Feb. 6 at Harvard, Feb. 25 at Columbia University, Feb. 26 at Stanford and Feb. 29 at Yale University. He predicted also the future of the service:” In the future we may sell ads to get the

³⁴ <http://en.wikipedia.org/wiki/Facebook>, 11.5.2009.

money back, but since providing the service is so cheap, we may choose to not do that for a while.” Interestingly, the first Facebook story was published at Stanford, not Harvard. Furthermore, also the business model – selling ads – was already mentioned in the very beginning.

First mainstream news story mentioning Facebook was published by Associated Press Newswire in April. The story was about a New York University student transferred to campus housing after several months of living in library. In the story student used the phrase “adding me to facebook”.³⁵ From the weak signal’s point of view, there was not enough information yet to draw any conclusions about the coming social changes via Facebook.

The *State Journal-Register*, the oldest newspaper in Illinois, was the first to introduce Facebook to its audience in June 2004. The Facebook network had spread to 36 schools with more than 170000 members, and its plan was to include more than 100 schools and 500000 members by fall.³⁶

Next newspaper to publish a story about Facebook was the *Boston Globe* in September. The story was about a lawsuit and rivalry between college-networking websites Facebook and ConnectU.³⁷ The story started with this evaluation:

Few trends have swept college campuses with the speed and force of Thefacebook.com, a website that allows students to create a personal page and then network with classmates.³⁸

According to the story by September 2004 Facebook had 284,000 users at 99 colleges. One of them Margarita Linets, a Boston University sophomore, explained her experiences in the story like this:

I thought it was stupid in the beginning, and then I got addicted. Now I check it first thing every morning.

In hindsight, I will argue that these remarks proved to be a weak signal about the social change, first among the American students, and later almost globally.

³⁵ Matthews, Karen. 27.4.2004. *NYU student transferred to campus housing after several months of living in library*. Associated Press Newswire.

³⁶ Jarosz, Francesca. 29.6.2004. *Connecting on campus ; Facebook.com is the latest way to make friends - and waste time*. The State Journal-Register.

³⁷ Later also USA Today followed the lawsuit story: *ConnectU, Thefacebook face off*. 24.11.2004. USA Today.

³⁸ Bombardieri, Marcella. 17.9.2004. *Online Adversaries: Rivalry between college-networking websites spawns lawsuit*. The Boston Globe.

Newsweek published the first magazine story mentioning Facebook briefly in August 2004.³⁹ Other newspapers followed with these stories:

28.11.2004: *Pittsburgh Post-Gazette*: Student network provides means to win new 'friends' with click of mouse

28.11.2004: *Pittsburgh Post-Gazette*: Winning New 'friends' with a click web site

1.11.2004: *The New York Times*: On Campus, Hanging Out By Logging On

4.12.2004: *The Patriot Ledger*: A parent's worry: The downside of instant messaging

13.12.2004: *The San Francisco Chronicle*: Log on, link up ; Social networking sites try to find new ways to keep users interested

20.12.2004 *The Oregonian*: Facebook creates college fad for 'biggest' face on campus, An online service lets students pile up some recognition

21.12.2004 *Journal Gazette*: College students meet face to Web Interactive directory links universities

24.12.2004 *Charleston Gazette*: Networking goes cyber for college students

26.12.2004: *The Richmond Times-Dispatch*: On campuses everywhere, students grow accustomed to their Facebook

27.12.2004: *The Columbus Dispatch*: Online community: College students swarm to www.thefacebook.com

28.12.2004: *The Washington Post*: Click Clique: Facebook's Online College Community

TV news networks first aired a story about Facebook May 2005. CBS News: Evening News with John Roberts focused on the romantic side of using Facebook.⁴⁰ CNN followed in July 2005⁴¹, and NBC News August 2005.⁴² It can be said that, when entering to the national TV News that's always already a strong signal.

Interestingly, it can be argued that during the first two years almost 50 percent of all the stories about Facebook were published via universities' own press and

³⁹ Ma, Olivia. 2.8.2004. Education: Need Help? Check Down The Hall. *Newsweek*.

⁴⁰ Roberts, John and Hughes, Sandra. 15.5.2005. *Coeds Hooking Up Online*. CBS News: Evening News with John Roberts.

⁴¹ CNN Live. 20.7.2005. *Internet Social Club Popular Among College Students*.

⁴² NBC News. 15.8.2005. Interview: Seppy Basili of Kaplan Test Prep and Admissions discusses how technology has changed campus life.

circulated by UWire, a service founded in 1994. Indeed, Facebook was first open only for college and university students in the U.S.⁴³.

Facebook opened a highschool version in September 2005, and later it expanded membership eligibility to employees of several companies, including Apple and Microsoft. Later, September 2006 Facebook was open for all. It has changed its name from thefacebook to facebook.com in 2005.⁴⁴

The first international story mentioning Facebook was published by the *International Herald Tribune* September 2005. The paper is owned by *The New York Times*. The IHT story was actually about the popularity of MySpace, but it also mentioned briefly Facebook.⁴⁵

According to Nielsen/NetRatings, users spend an average of 1 hour 43 minutes on the site each month, compared with 34 minutes for **facebook.com** and 25 minutes for Friendster.

Internet commerce was then still recovering from the bursting of the bubble in 2000, although social networking sites like Friendster and **Facebook** had fad status with users, who joined to track down old friends or troll for dates.

Overall, this kind of listings and comparisons were typical for the first stories mentioning new services and companies. Also, the more users the services attracted the more attention and space in journalism they got. Briefly, numbers matter, make news.

In Britain, *The Guardian* published the first story about Facebook November 2005. Most important of all, *The Guardian* story was the very first to mention that Facebook was going international, a first signal that Facebook was aiming to be a global company. In 2005 Facebook expanded its service also to Ireland, Switzerland, France, Canada and Mexico, but first only at English-speaking universities.⁴⁶

However, already in February, Facebook was available in Britain at Cambridge and Oxford Universities. In a way, the British press was half a year late with its news

⁴³ Warger, Tom. 1.2.2005. *Internet 2005: the gorilla gets bigger: even as it grows more useful, the internet is still an unwieldy beast*. University Business. Volume 8; Issue 2

⁴⁴ Lacy, Sarah. 12.9.2006. *Facebook: Opening the Doors Wider*. Business Week; <http://en.wikipedia.org/wiki/Facebook>, 13.5.2009.

⁴⁵ Williams, Alex. 1.9.2005. *MySpace: A site with 26 million 'friends'*. International Herald Tribune.

⁴⁶ *Facebook.com: Social networking site helps college students around the world make a connection*. 24.11.2005. The Guardian.

about Facebook entering to Britain. I would like to argue that this is once again an example of the gap between universities and the news flow of main stream media.

Interestingly, the local, Silicon Valley press did not follow the Facebook story that well in the beginning. Only Stanford University's own news outlets were an exception. According to Factiva *the San Francisco Chronicle* did publish the first story mentioning Facebook December 2004. But it did not even mention that the company has just moved its operations to Palo Alto, June 2004. In the story it was still linked mainly to Harvard. Furthermore, it is almost certain that the local press was cautious about writing too much about "social networking", because there were already some cases, start-ups that did not work so well. To be sure, there was no real social networking success story yet, but some weak signals though, for example – MySpace from Los Angeles.

Social networking isn't a new idea. SixDegrees.com, a company founded in 1996, originated the idea, but it failed to catch on.- - The number of unique monthly U.S. visitors to Friendster has hit a plateau at 945,000, down by half from a year ago, according to ComScore Networks. In contrast, MySpace.com's monthly audience has grown steadily, to 3.4 million. - - New niche players have also emerged, including Thefacebook and CampusNetwork, both of which are focused on colleges. During the past year, they have created services individually tailored for hundreds of schools, including UC Berkeley and Stanford.⁴⁷

It took almost a year before *SF Chronicle* mentioned Facebook again. The tone of the voice about social networks was changed from a cautious one to more positive, even enthusiastic:"Social networking has become one of the most popular applications on the Internet in the wake of the dot-com bust."⁴⁸

During the 2005, the numbers of the users boosted up; MySpace had 33 million, and Facebook 8,3 million. Also the media giant, Rupert Murdoch's News Corporation invested in social networking by acquiring the leader in the field, MySpace, in September for \$580 million.

In the story *SF Chronicle* predicted for the first time that Facebook would be next success story from the Valley.

By serving the needs of a specific population, creating a platform for users to generate content and enabling advertisers to reach a niche audience, Facebook has the makings of an Internet 2.0 giant.

⁴⁷ Kopytoff, Verne. 13.12.2004. Log on, link up; Social networking sites try to find new ways to keep users interested *The San Francisco Chronicle*.

⁴⁸ Harmanci, Reyhan. 23.10.2005. *Online networking clicks among friends. And investors sense profits from Web sites linking people.* *SF Chronicle*.

According to Factiva, all together 77 news mentioning Facebook were published during the first year, 2004. Year later the number of news grow to 724, and 2006 it was 5813.

At this point, I will leave Facebook (Palo Alto) for a moment and continue with another case, Twitter from San Francisco.

2.3 Twitter – since 2006

According to many sources microblogging service Twitter was first only a side project for podcasting company Odeo. Business 2.0 disclosed that Twitter was created in two weeks March 2006 in San Francisco. The service is based on users' updates known as tweets. Tweets are text-based posts of up to 140 characters. No wonder that Twitter is called "SMS of Internet".⁴⁹

On the contrary to the Facebook case, the local media, especially *the San Francisco Chronicle* played an important role in Twitter case by publishing the very first news about its service August 2006.⁵⁰ It is possible that after ignoring Facebook and maybe other so called Web 2.0 companies in its news agenda, the paper changed its focus. In any way, the paper started to report about companies that had not made yet the cover of magazines.

In the story, *Cool Web 2.0 Sites*, was emphasized that the main criteria for journalists who chose companies for the story was that "the companies were something one probably haven't heard of before". Twitter was one of those. The others were: stumbleupon.com, imeem.com, slide.com, meebo.com, popurls.com, dabble.com, pandora.com, eyespot.com, songbirdnest.com, and revver.com.

Being more precise, *SF Chronicle* wrote that Twitter is:

A text messaging service that lets people send notes to groups. "You can send something to one number and it's distributed to other people," said Ryan Freitas, an interaction designer at Adaptive Path in San Francisco. "It tells people where you are. It's kind of like microblogging. It's really a lot of fun. Part of Web 2.0 is that it's fun and it's a utility combined with one another, so people enjoy what they're doing while they're getting something out of it."

Surprisingly, next to make news about Twitter was a British special news service called Content Wire in October 2006. It mentioned that an audioblogger service

⁴⁹ Lev-Ram, Michal; Copeland, Michael V; Alsever, Jennifer; Myser, Michael; Haiken, Melanie; Hamner, Susanna; Irwin, Mary Jane; Brandon, John. 1.1.2007. *What's Next: The Top 10 Products, Ideas, and Trends*. Business 2.0: <http://en.wikipedia.org/wiki/Twitter>, 13.5.2009;

⁵⁰ Fost, Dan and Lee, Ellen. 28.8.2006. Cool Web 2.0 Sites. The San Francisco Chronicle.

run by Odeo is closing its service. In the end of the story is an interesting “add” from the Odeo:

'Odeo would like to extend a huge thank you to everyone who has tried Audioblogger. If you are interested in keeping up with our other blog-friendly projects, please have a look at **Twitter.com** and our customizable audio players'.

The Washington Post and *The Guardian* both published the same story mentioning Twitter briefly in November 2006. Michael Kinsley's article was about “the online ego monsters”, and he wrote in the very end of the almost 1000 words article that” for the ultimate in solipsism, check out twitter.com, a site where you can answer the question, ‘What are you doing?’”⁵¹

Another surprise is that a local British newspaper *Derby Evening Telegraph* was the fourth in the world to publish a story mentioning Twitter, and in hindsight, with a nice prediction:

Twitter (www.twitter.com) is the latest web craze, combining text message technology with the immediacy of weblogs and the fun of keeping in touch with friends. Odeo hasn't been that successful, but the shiny newness of Twitter has much brighter promise for the future.⁵²

Next, furthermore, still other British publications making headlines about Twitter already in December 2006: *Birmingham Post*, Make a complete Twit of yourself . . and reap the benefits (5.12.) and *The Times*, twitter.com;The click (12.12.).

Silicon Valley magazine, *Business 2.0* predicted the next top 10 products, ideas, and trends in January 2007.⁵³ One of those was Twitter:

It's too early to tell which brand of user-generated content will be the Web 2.0 phenomenon of 2007, but placing an early bet on **Twitter** might be a good move. The free service, which combines the instant voyeurism of personal blogs with the brevity of text messages, appears

⁵¹ Kinsley, Michael. 28.11.2006. *Like I Care*. The Washington Post; Kinsley, Michael. 28.11.2006. *The online ego monster: Despite the alleged pull of anonymity, the web swarms with people who want to share everything*. The Guardian.

⁵² *Get your mates a-twitter with latest web craze*. 2.12.2006. Derby Evening Telegraph

⁵³ Lev-Ram, Michal; Copeland, Michael V; Alsever, Jennifer; Myser, Michael; Haiken, Melanie; Hamner, Susanna; Irwin, Mary Jane; Brandon, John. 1.1.2007. *What's Next: The Top 10 Products, Ideas, and Trends*. Business 2.0.

to be catching fire, doubling its user base every month. It had 10,000 users by December and expects to hit 100,000 by April.

In the *Business 2.0* story Twitter creator Jack Dorsey and Evan Williams, who created Blogger and sold it to Google in 2003, were introduced to the readers. According to the story, Dorsey was writing software for couriers to let them send short status updates. Later he figured the same idea could work for people's personal lives.

This list of news is a good example of the pace the news was still published in Spring 2007.

1.1.2007 The Guardian: Technology and Media

3.1.2007 National Post: [Click Here](#)

8.1.2007 The palm Beach Post: Internet is usurping tv, film, or the world as we know it

8.1.2007 The palm Beach Post: Top 10 Tech Predictions for 2007

15.1.2007 St. Petersburg Times: Tech top 10

27.1.2007 Star-Tribune: Do you Twitter? You will

14.2.2007 The San Francisco Chronicle: Tech's younger generation leans on Web 2.0 for love

16.2.2007 The Wall Street Journal Asia: Loose Wire: Sign up for nothing --- The new, social Web sparks an account-registering frenzy

25.2.2007 The Oregonian: Josh Bancroft on the Web

Interestingly, *The Guardian* first noticed the link between Twitter and politics March 2007. According to paper US Democratic presidential candidate John Edwards was an early adopter Twitter.com.⁵⁴

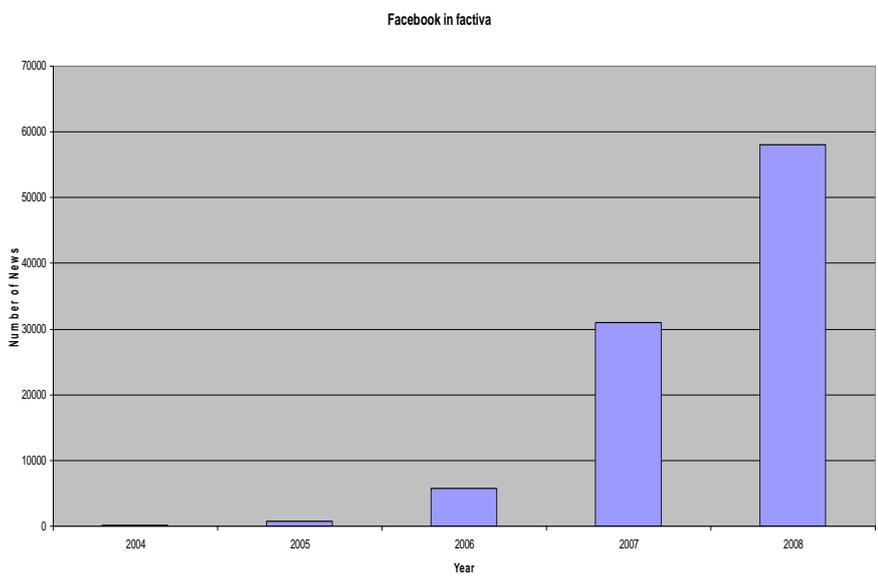
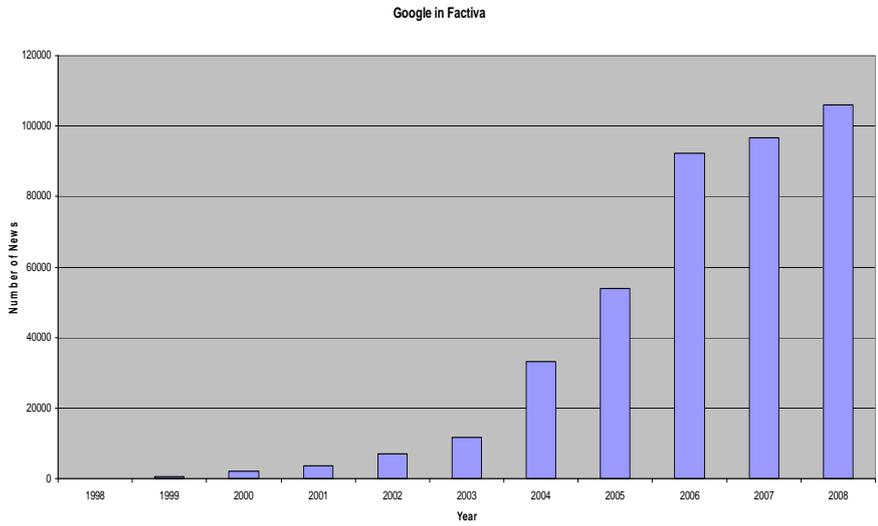
After all of this, I will argue that despite 213 stories published during 2007 about Twitter, the service was still not in the same level in public sphere than, for example Google and Facebook. In addition, only ten stories were published during the first year of its existence, 2006. The break through came in 2008 with 1413 stories.

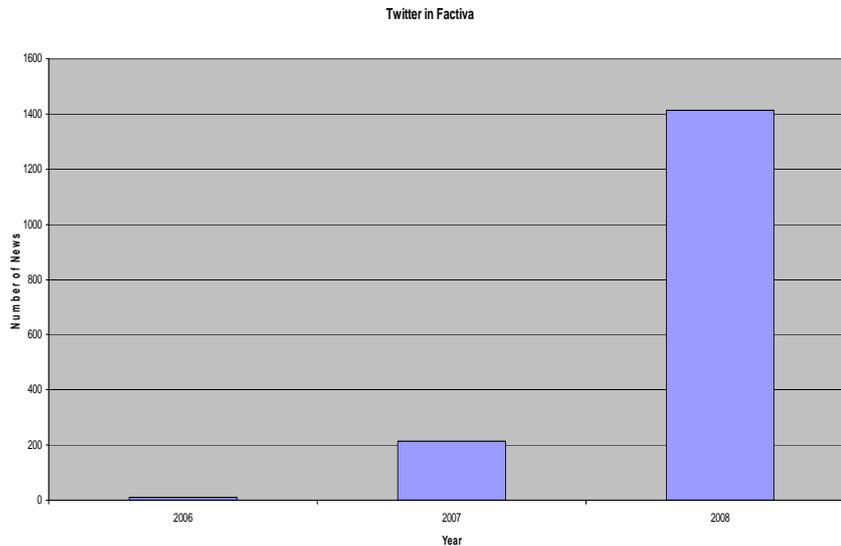
At this point, I will continue to build more theory about weak signals in innovation journalism by analyzing quantitatively the total news flows mentioning Google, Facebook, and Twitter.

⁵⁴ What is twitter, and is there any reason I should care? 15.3.2007. The Guardian.

3 News Evolution Model

Next, I will add three tables in order to illustrate the news flow in quantity.





First of all, I will argue that one can use the variation of the number of the news to detect weak signals of coming changes. Moreover, it is immediately apparent that if the number of the news mentioning the company continues to grow year after the year, one can interpret that it has had some kind of success or at least gained attention. Of course, this can also be an indication of a journalistic “hype” and a “bubble”, like “dot.com-bubble” in the end of 1990’s. This is a valid concern, but by combining news flows with qualitative text analyses, and being critical enough, one can, indeed, find weak signals of coming change, and even prevent bubbles by executing good innovation journalism.

Based on the empirical findings of this paper I will next form inductively a model, which illustrates different levels of signals, and the evolution of journalism in start-up company cases. I call this *News evolution model*, and it can be categorized into six different signal levels of which the two first levels could be defined as weak signal levels.

0-9 stories/year = *first weak signals* (Very first appearances of start-ups. Usually just briefly mentions in the end of stories. Local news outlets, trade publications, but could be also national newspapers, magazines)

10-99 stories/year = *weak signals* (Second appearances of start-ups, often linked to getting more funding. The name of the start-up can be also in the headline. Mentioned first time in the international news outlets.)

100-999/year = *strengthening signals* (More than one story a year by many leading publications, also mentioned regularly in international news. Entering to national TV-news.)

1000-9999/year = *strong signals* (A company is well-known in the U.S. and also in many parts of the world. Company name can become part of a language. It has

great potential, but still needs to be commercially tested. The name of the company seen almost every day in news outlets.)

10 000-999 999/year = *success story* (Market leader in its area. Financially strong. Special reporters named to follow the company.)

over 100 000/year = *world leader* (World dominance in its field, utmost innovative, and profitable, but also monopolistic, anti-trust laws tested in courts)

News evolution model can also be used to measure reputation of companies. For example, over 10 000 stories a year means that the company has a strong worldwide reputation.

After all of this, we can categorize for example Google, Facebook and Twitter in 2008 according to *News evolution model* by following: Google – world leader, Facebook – success story, and Twitter – strong signal.

4 Discussion and implications

This article has been a modest attempt to explore Silicon Valley's three innovative companies Google, Facebook, and Twitter in news. Specifically, this article had two purposes. The first was to illuminate the news flows of three Silicon Valley companies, especially during their early start-up phase. The second was to offer a model for understanding better the evolution of innovation news.

Detecting weak signals from news flows needs both quality and quantity research methods, and perspectives. In this paper, I have analyzed the news of three Silicon Valley tech companies mainly from the quality perspective. The focus has been especially on the very first stories.

According to this study all cases were slightly different when comparing the first months of the news. Google was first mentioned by *Business Week* magazine, and Twitter were first recognized by local Silicon Valley news media *the San Francisco Chronicle*. Facebook, on the contrary, was almost without any traditional news media attention in the beginning. Facebook was first in news at Stanford University's own news outlets.

Both Google and Twitter entered to the international news media quite early. Britain was the gate to the Europe; India, and Thailand to Asia. Surprisingly, *the Washington Post* was a better source for weak signals than *The New York Times* in the case of Google.

In addition, Google entered to the news only couple of weeks after it was incorporated. It can be argued that the links to Stanford University and its recent history of facilitating search engine companies helped the start-up to enter to the public spheres this early. However, after this 'jump-start', Google tried to keep a lower profile in its media relations, not allowing journalist to its Mountain View

headquarters, Googleplex, before 2005 first Press Day, and even avoiding TV advertising until May 2009.⁵⁵ Ironically, most of the revenues for the company have always come from the ads.

Facebook is a good example of a company that did not get good press coverage in the start. In explaining why we could interpret at least these reasons: 1) the service started in university campuses, and maintained only-for-students status for a long, 2) social networking was not a success story yet, on the contrary, failings of the first social networking companies were still fresh in mind, and 3) the burst of the dot com bubble prevented the journalists for some time to create similar kind of bubbles. Only after Rupert Murdoch's News Corporation entered to the social networking business fall 2005, the press coverage about the topic started to increase. The lesson for the innovation journalist is to look more carefully to the campuses, and students' life. Maybe Europe needs its own UWire.

The case of Twitter in news illustrates at least a change in the way *the San Francisco Chronicle* wrote about start-ups. The paper introduced Twitter to the world by publishing the first story. It can be also said that the local press in Britain was quick to learn about Twitter. It is possible that some reporters' personal interests influenced this surprisingly early reporting.

The data reported here was collected from two digital news archives: Factiva and The New York Times. Based on the empirical findings of this paper a theoretical *News evolution model* was created to illustrate the evolution of news in the case of start-up companies in journalism. It consists six different levels: *first weak signals, weak signals, strengthening signals, strong signals, success story, and world leader*.

The author of this paper claims that a company (start-up) could be interpreted as a weak signal during the time when only 1-99 news stories are published in a year. After this, if successful, the company often becomes known nationally, and even internationally.

Finally, it is worth stressing that Google, Facebook and Twitter were all quite similar kind of cases. A limitation of this study, no doubt about it, is that no failed cases were chosen. Therefore, the question of unsuccessful cases might merit further investigating to test the *News evolution model*. Another weakness of this study is that weblogs and other non-traditional online media were not researched due to the lack of solid digital archives. Of course, to arrive at a more fully informed understanding of weak signals in innovation journalism, nowadays, we should definitely add online news outlets and aggregators like TechCrunch, TechMeme, Walleywag, Google News and many more to our source list.

My last argument, here is that news as well as digital news archives like Factiva, indeed, can be used as a source to detect weak signals.

⁵⁵ Krazit, Tom. 8.5.2009. Google Chrome ads coming to TV. CNET.com.

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