

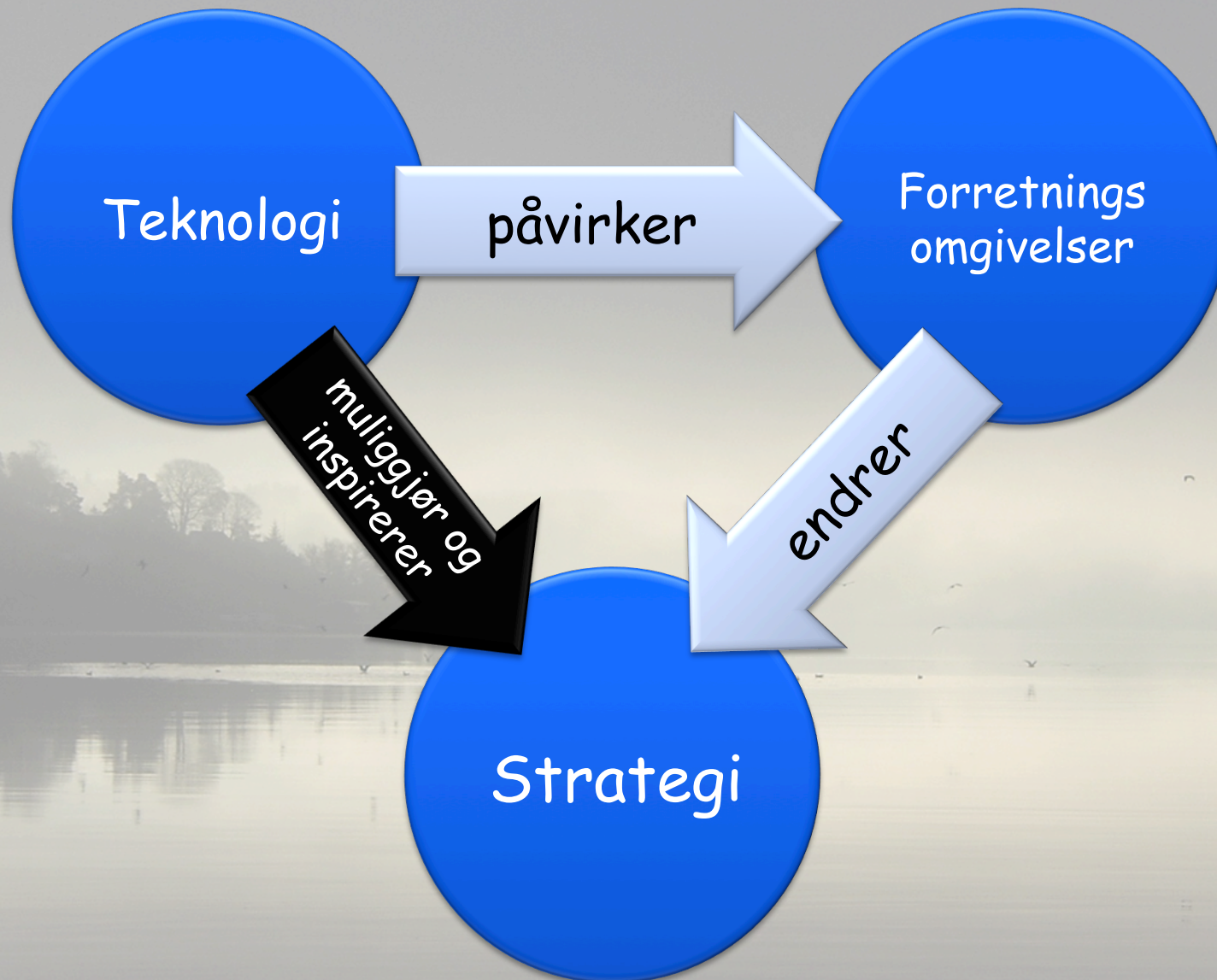
# Big Data som konkurransevåpen?

CIO Forum  
 Oslo Kongressenter  
 10. oktober 2013

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 Strategi og teknologi  
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 Leder, Senter for  
 Teknologistrategi, BI  
 Eier  
 Tversover Consulting AS



# Teknologistrategi:

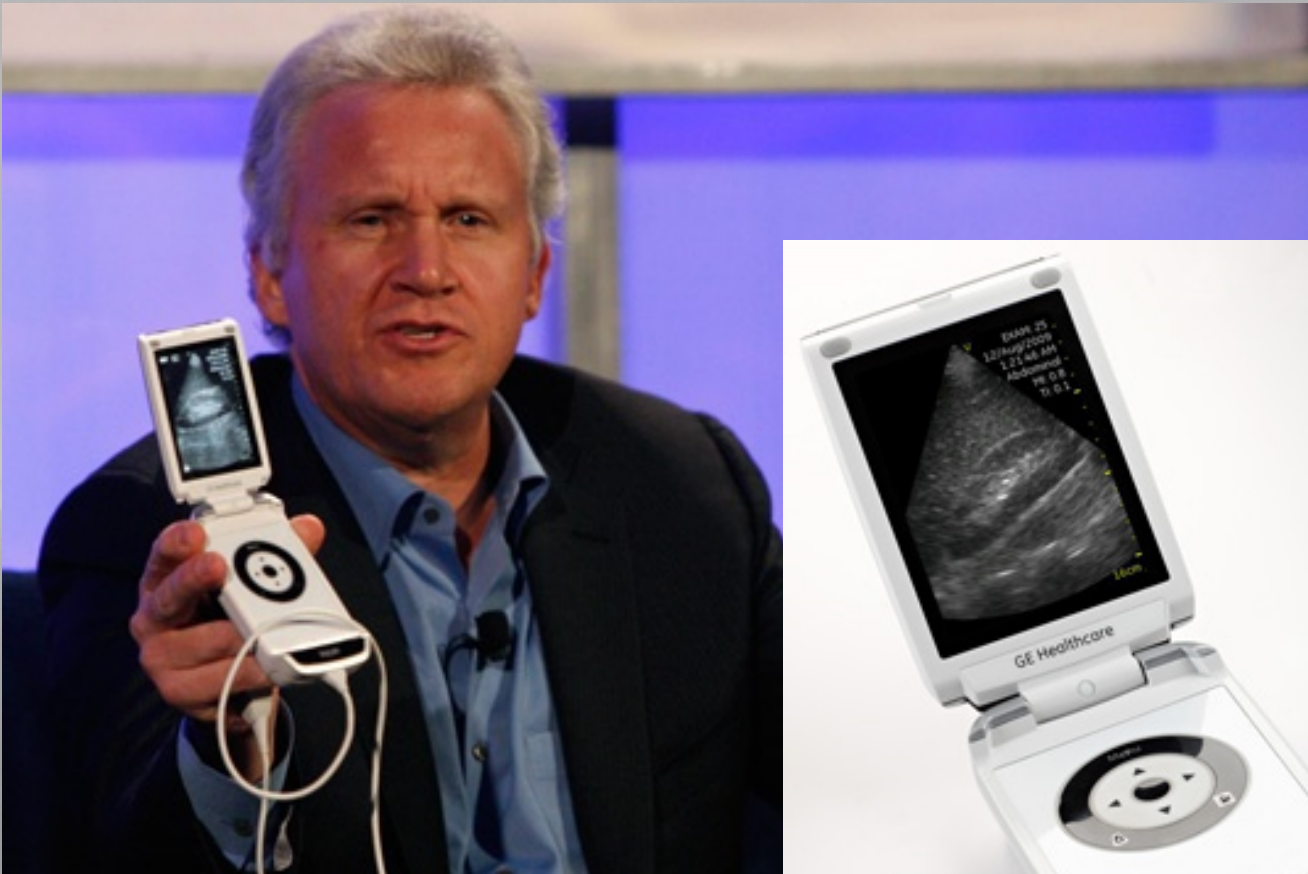


# BIG DATA

# Den korte historien

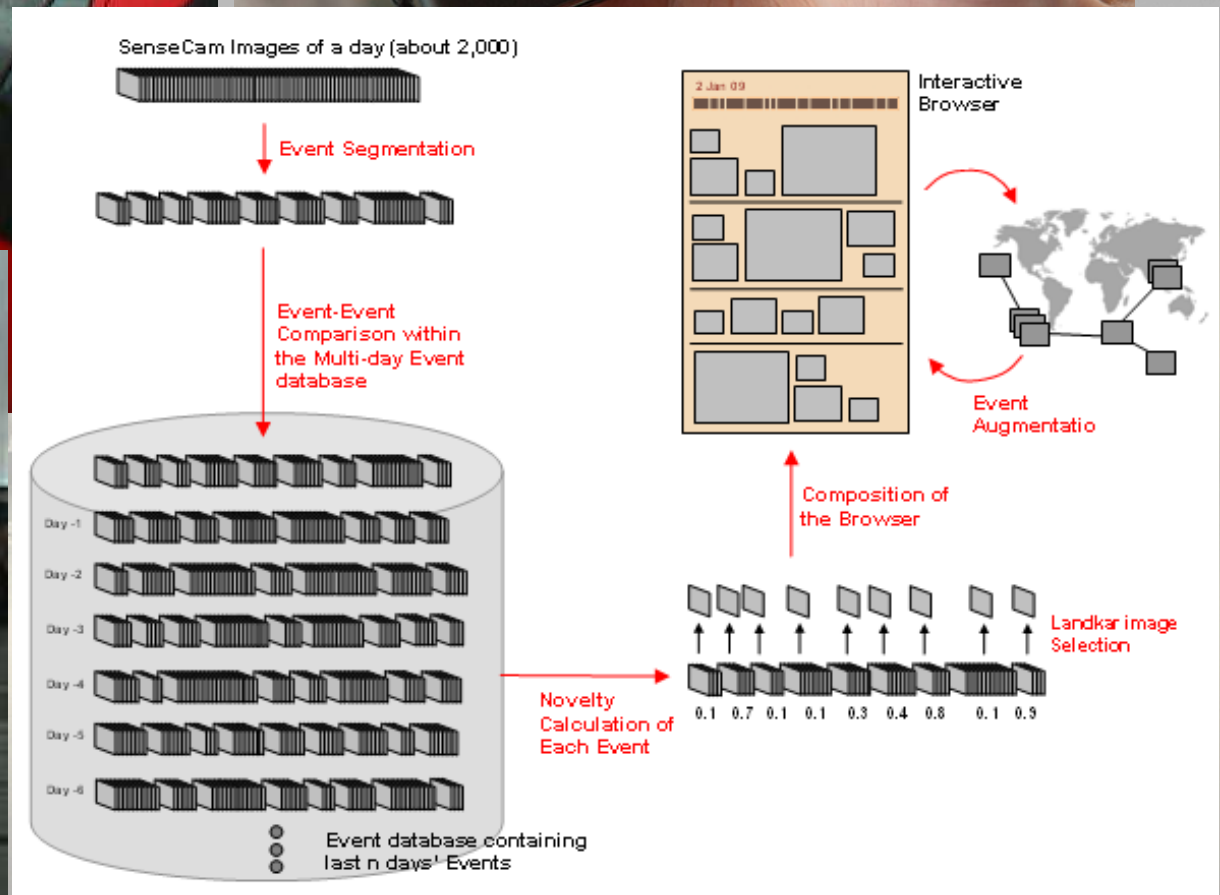
- Mer og mer data tilgjengelig
- Ryddejobben mye større enn antatt
- Mangel på analytisk talent
- Mangel på modeller
- Mangel på metadata
- Mye kan automatiseres
- Kan gi nye forretningsområder for bedrifter - men også gi kundene makten
- Start med lavthengende frukt og invester for fremtiden

# Sensorer leverer data



Source: [www.gereports.com/vscan-pocket-sized-ultra-smart-ultrasound-unveiled/](http://www.gereports.com/vscan-pocket-sized-ultra-smart-ultrasound-unveiled/)

# Tenk om du kunne huske alt?



# Data flyttes lettere



Clas Ohlson: 199,-/32Gb

<http://tversover.com/2010/11/29/informasjonsmengdejusteringer/>

# Enkle verktøy gir dataanalyse til folket.....



The NEW ENGLAND  
JOURNAL of MEDICINE

At a recent case conference with a distinguished visiting professor, a fellow in allergy and immunology presented the case of an infant with diarrhea; an unusual rash ("alligator skin"); multiple immunologic abnormalities, including low T-cell function; tissue eosinophilia (of the gastric mucosa) as well as peripheral eosinophilia; and an apparent X-linked genetic pattern (several male relatives died in infancy). The attending physicians and house staff discussed several diagnostic possibilities, but no consensus was reached. Finally, the visiting professor asked the fellow if she had made a diagnosis, and she reported that she had indeed and mentioned a rare syndrome known as IPEX (immunodeficiency, polyendocrinopathy, enteropathy, X-linked). It appeared to fit the case, and everyone seemed satisfied. (Several weeks later, genetic testing on the baby revealed a mutation in the FOXP3 gene, confirming the diagnosis.)

"How did you make that diagnosis?" asked the professor. Came the reply, "Well, I had the skin-biopsy report, and I had a chart of the immunologic tests. **So I entered the salient features into Google, and it popped right up.**"

"William Osler," I offered, "must be turning over in his grave. You googled the diagnosis?"

Where does this lead us? **Are we physicians no longer needed?** Is an observer who can accurately select the findings to be entered in a Google search all we need for a diagnosis to appear, as if by magic? The cases presented at clinicopathological conferences can be solved easily; no longer must the discussant talk at length about the differential diagnosis of fever with bradycardia. Even worse, the Google diagnostician might be linked to an evidence-based medicine database, so a computer could e-mail the prescription to the e-druggist with no human involvement needed. The education of house staff is morphing into computer-search techniques. Surely this is a trend to watch.

— Robert Greenwald, M.D., (November 2005)

# A/B-testing kan automatiseres

[www.outbrain.com](http://www.outbrain.com)

The image shows a screenshot of the Outbrain website. At the top, there is a navigation bar with the Outbrain logo, links for 'Smarter Engagement', 'Acquire Traffic', 'What's Outbrain', and 'Blog', along with icons for email and a phone. A green button in the top right corner says 'Login Or Register'. The main content area features a large headline 'Unlock the Power of Total Discovery' with the subtext 'Get your content discovered by the right audience at the right time.' Below this, there are two yellow buttons: 'Drive Engagement' and 'Acquire Traffic'. The central part of the page displays a 'We recommend' section with a list of article titles, including 'Every woman needs a 'gaggle' of men', 'The tiny island with a huge Web presence', 'Unemployment takes tough mental toll after baby', 'Celebs and civilians alike expected to 'bounce back'', 'Documentary cultivates real-life lessons', and '10 best motorcycle roads in the U.S.'. To the right, there is a 'From around the web' section with links to various articles like '7 Natural Ways to Ease Back Pain', 'A Yard Becomes a Lawn', 'Undo the Bad Effects of Smoking', 'Caramelized Onion Tartlets', 'Beautify Your Yard With This One Green Tip', and '6 Girls At Bars That You Want To Hit On But Shouldn't'. At the bottom, there are logos for CNN, FAST COMPANY, Rolling Stone, and TIME. A red banner in the bottom right corner says 'INTRO VIDEO' with a play button icon.

Outbrain

Smarter Engagement Acquire Traffic What's Outbrain Blog

Login Or Register

## Unlock the Power of Total Discovery

Get your content discovered by the right audience at the right time.

Drive Engagement Acquire Traffic

**We recommend**

- Every woman needs a 'gaggle' of men
- The tiny island with a huge Web presence
- Unemployment takes tough mental toll after baby
- Celebs and civilians alike expected to 'bounce back'
- Documentary cultivates real-life lessons
- 10 best motorcycle roads in the U.S.

**From around the web**

- 7 Natural Ways to Ease Back Pain [HeathCentral.com](#)
- A Yard Becomes a Lawn [HGTV](#)
- Undo the Bad Effects of Smoking [Lifescript.com](#)
- Caramelized Onion Tartlets [Reader's Digest](#)
- Beautify Your Yard With This One Green Tip [Recyclebank](#)
- 6 Girls At Bars That You Want To Hit On But Shouldn't [MadelMan](#)

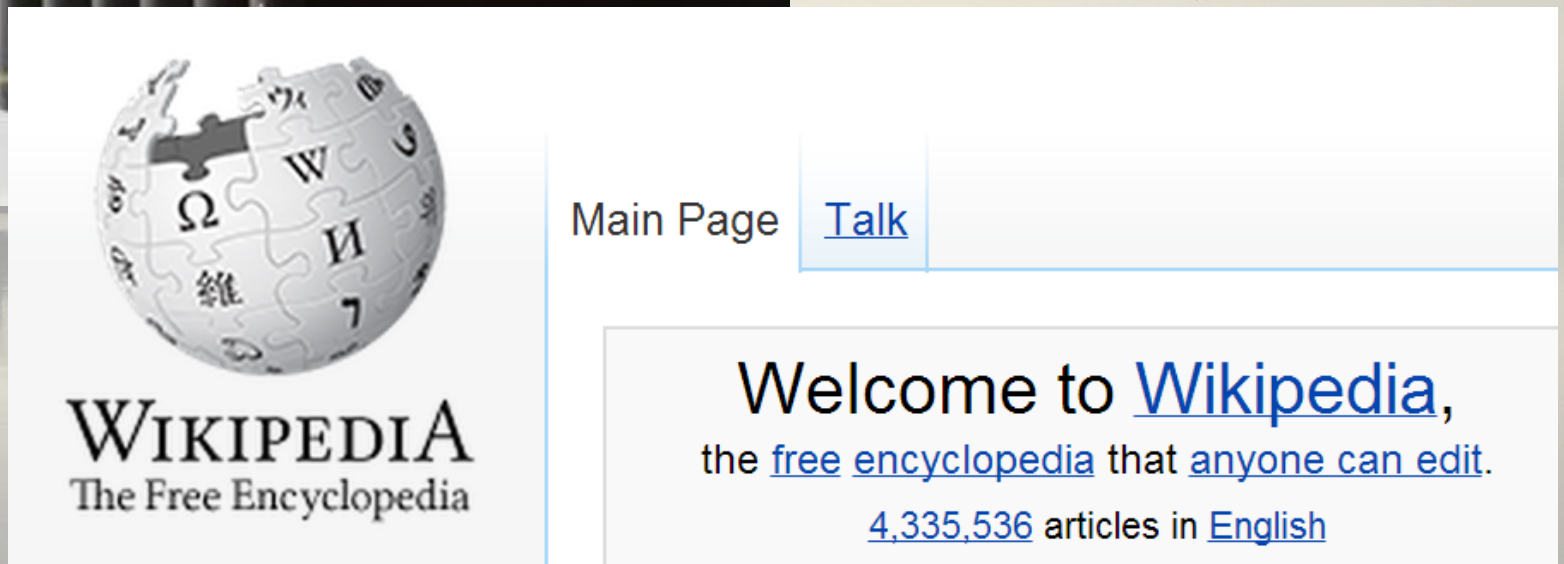
**Previous entry**

FDA urges removal of Korean shellfish from stores

**Logos:** CNN, FAST COMPANY, Rolling Stone, TIME

INTRO VIDEO

# Datakvalitet – top down eller bottom up?



<http://kornet.nu/blindhona/arkiv/001946.html>



<http://kornet.nu/blindhona/arkiv/001946.html>



<http://kornet.nu/blindhona/arkiv/001946.html>

<http://kornet.nu/blindhona/arkiv/001946.html>




# Ikke forveksle samvariasjon med kausalitet



# Tre ting å begynne med

1. Forstå datamekanismer
2. Forstå brukerbehov
3. Forstå verdiskapningsmodell

# Tre typer søk - to av dem virker...

	General web search	Site-specific search	Enterprise search
Typical company	Google, Bing, Baidu, Exalead	Amazon.com, Dell.com, Autobyte.com, Nytimes.com, Netflix.com	Any company's Intranet
Technology	Proprietary (Hadoop, BigTable, LAMP architecture)	FAST (Microsoft), Autonomy, Verity, Lucene/Solr	Google Search Appliance, Sharepoint/FAST, others.
Content	Mostly material from the open Internet	Content from own site, often generated	Internal content, typically Office documents, databases
Responsibility	Own company	Marketing team	IT or IM (research organizations)
Key success factor	Traffic, popularity	Customer experience, revenue	Use, customer satisfaction, productivity
User perception			
Approach	PageRank, clickstream analysis, query analysis, A/B testing	Optimization based on sales goals/customer experience, A/B testing	Query analysis. In future: context analysis, social search, history
Technical challenges	Searching non-text material, privacy, political considerations	Data curation, consistency of offerings.	Privacy, poor information management, relevance
Organizational challenges		External searchability, deep linking	Infrastructural nature of search service
Strategic future	Globally shared information environment	Data-analytics-driven business optimization	Gateway to analytics?

## Source:

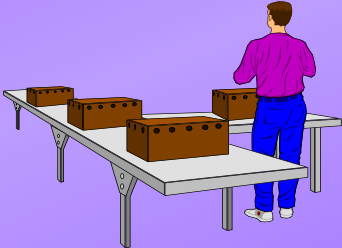
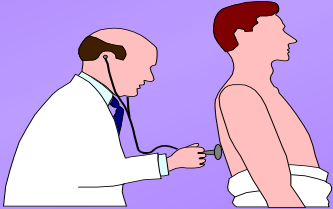
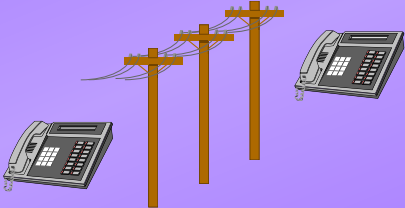
E. Andersen (2012): From Simple Search Box to Big Data Navigation: Making Enterprise Search Work, MIT CISR Research Briefing (cizr.mit.edu)

# Brukerbehovet styrer datastrategien

Search type	Typical question	Use and service examples
<b>Search Term Search</b>	"What search term should I use?"	Predictive typing, suggestions, "most searched" lists
<b>Topic Information</b>	"Tell me something about medieval siege engines."	Wikipedia, ask.com, mahalo.com
<b>Factual Information</b>	"What is the population of Pyongyang?"	Google fact-search, natural language search (future: Wolfram Alpha?)
<b>Specific instance Information</b>	"Where is that email from Martin about the Chinese budget?"	Google Desktop, enterprise search offerings
<b>Unspecified (zero-term)</b>	"What's up today?"	Newspapers (topic pages), finance pages, federated search engines
<b>Exclusionary Search</b>	"Demonstrate that nobody in this company have leaked to the press (at least not electronically)."	Enterprise search
<b>Contextual Search</b>	"Find me similar documents to this one."	Plagiarism checkers, music discovery services, pictorial search
<b>Search as Reference</b>	"Google 'hirschorn atlantic' and you will find it."	Sematic web? (Faces personalization, time, updates, other issues)

# 4

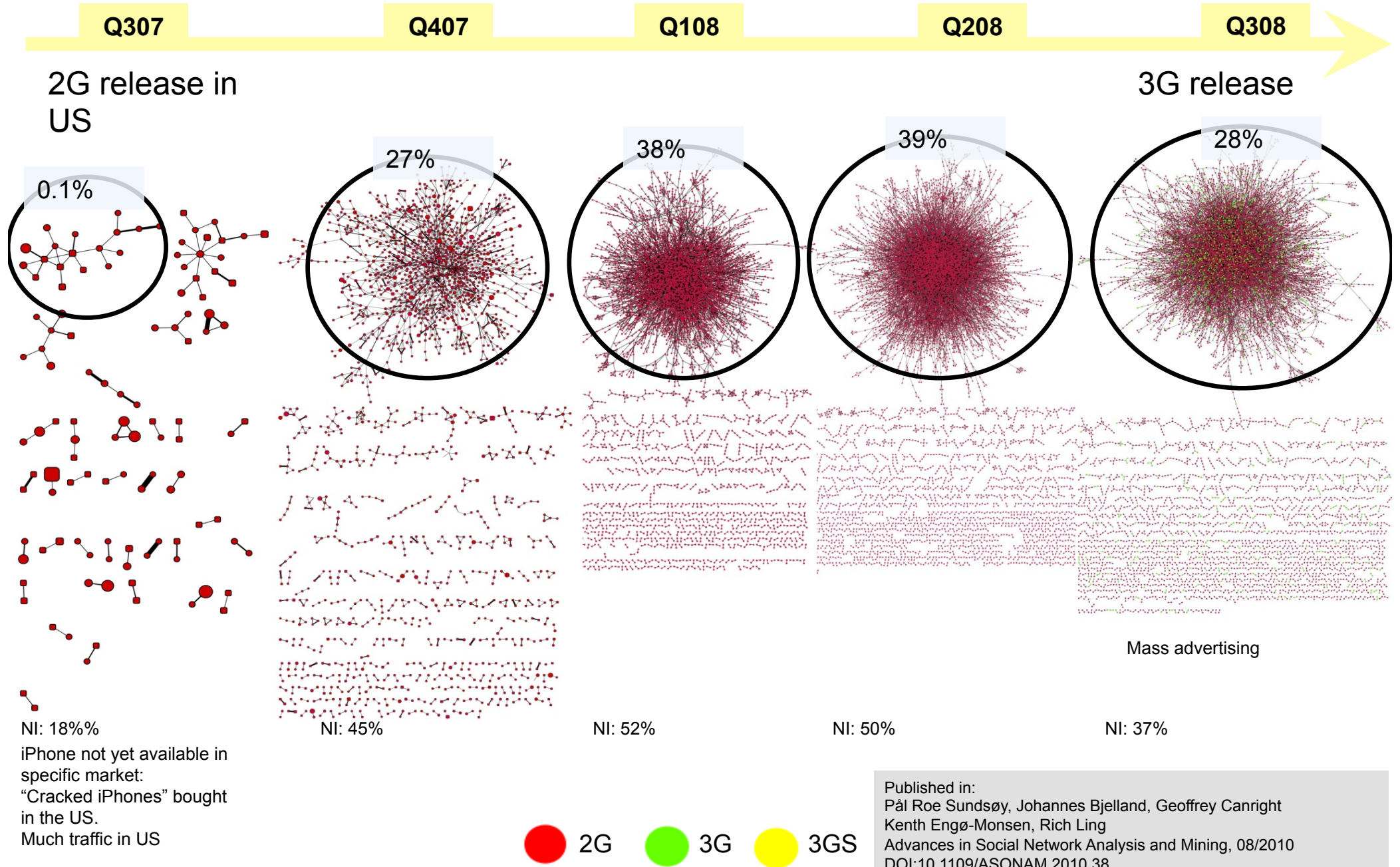
## Forskjellige forretningsmodeller krever forskjellige analysemetoder

Configuration	Competence	Focus
<b>Value chain</b> 	<b>Make products: Linked technology</b>	<b>Product</b>
<b>Value shop</b> 	<b>Solve problems: Intensive technology</b>	<b>Solution</b>
<b>Value network</b> 	<b>Mediate interaction: Mediating technology</b>	<b>Customer</b>

Source: Fjeldstad, Ø. and E. Andersen (2003). "Casting off the chains: Value shops and value networks." *European Business Forum* (14): 47-53.



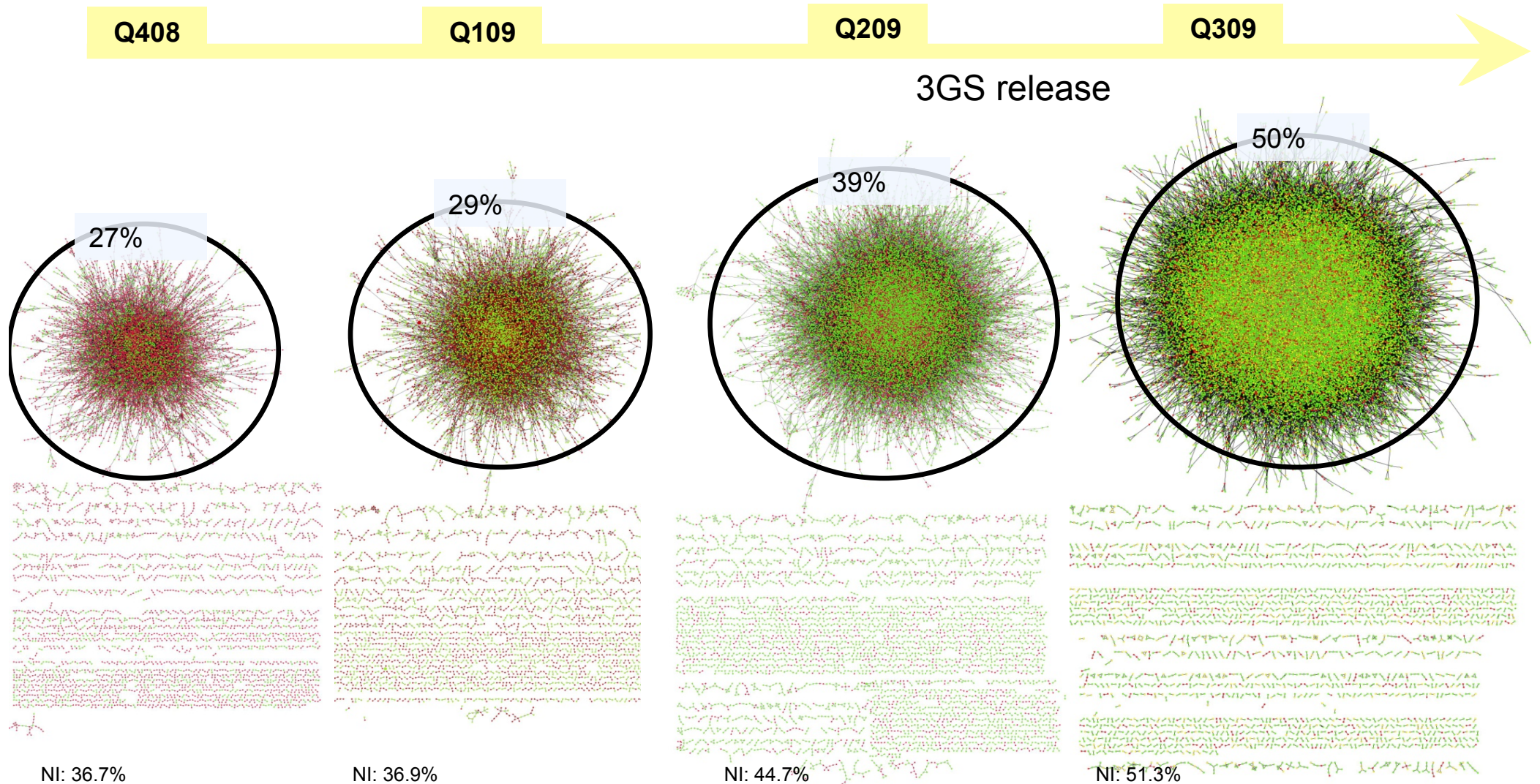
# The iPhone adoption network evolution



Published in:  
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Kent Engø-Monsen, Rich Ling  
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DOI:10.1109/ASONAM.2010.38



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