

SUMMARY REPORT

Who has influence on the debate on Stem Cells in Scandinavia (Denmark, Norway and Sweden)?

Date released	13/FEB/2006
Topic	Stem Cells (in English or Scandinavian languages)
Geographic focus	Scandinavia (Denmark, Norway, Sweden)
OSA ID	6/134/S1

(This report is a summary of OSA 06/134)

Influence.....	2
Methodology.....	3
Results	4
Notes.....	8
Figure 1 - Influence among top influencers (Table 1)	6
Figure 2 - Influence among top Information Influencers (Table 2)	8

Influence

You exert influence on people when they listen to what you say or read what you have written – and vice versa.

We form our opinion about all sorts of matters using information that has been supplied to us by other parties. Is the weather getting warmer? Is the ice at the North Pole melting? We may have an opinion on this but have we actually measured it ourselves? Most of us haven't – we rely on various sources of information to form our opinion. But when we take in information from others, they influence us.

When calculating influence Analytica gathers information available in the public domain and analyse it to find out who is referencing whom in the context of the issue we are analysing.

The way we calculate influence is equivalent to the way influence of academic journals and universities are calculates: using citation analysis.

At the heart of this type of influence measurement is a simple, but central conjecture:

Person¹ X has influence on Person Y regarding a particular issue if Person Y is dependent on Person X for information or to support point of view about the issue.

In academic citation analysis this is put into practice by a slight rephrasing:

Person X has influence on Person Y regarding the issues covered in the academic paper, if Person Y cites person X as a reference in the paper.

When measuring "issue influence" Analytica uses the very same principle. Formulated in words our central principle reads

If a stakeholder of an issue, references someone in the context of the issue, it is because the former stakeholder believes the latter stakeholder is relevant to the context

..and when a stakeholder believes another stakeholder is relevant to an issue, then the latter stakeholder has some influence over the former stakeholder when it comes to the issue in focus.

Based on the principles above systems of equations can be formed and influence calculated. It is seen that "influence" is highly related to "relevance".

By turning citations into a system of equations we calculate influence.

One of the great advantages of this kind of influence measurement is that it takes indirect influence into account.

¹ "Person" can mean organisation, website, person, etc, according to the context.

Methodology

To construct an Analytica Stakeholder Analysis (OSA) a focus issue² needs to be defined. In this case "Corporate Social Responsibility" was chosen.

Analytica's proprietary issue-focused web crawler identifies and downloads any document³ about the issue found on the Internet; typically around 10-20 thousand.

The documents are then analysed for references. So if a document, created by organisation X, refers organisation Y in the context we are focusing on, then we take it that organisation X deems organisation Y relevant to the issue. It also on average means that organisation Y, to some extent, influence organisation X on the particular issue.

After some consolidation and statistical filtering we end up with set of interlinked stakeholders; typically 1000 +/- 500. These stakeholders constitute a body of stakeholders whose relevance to the issue can be substantiated.

Using well known mathematical procedures we then calculate metrics of interest; mostly influence metrics.

² The issue can be a simple set of words or a more complex set texts and rules.

³ Web pages, word, pdf or PowerPoint documents

Results

Table 1 shows the top⁴ influencers on the topic of “Stem Cells” in the Scandinavia.

The organisations in table 1 all have an Issue Influence Index™ on this topic of 1.8 or more.

Issue Influence Index™ is a generic measure of influence. It measures both direct and indirect influence and is calculated like a citation index used to calculate influence of academic journals.

The scale is linear, ranging from 1 (one⁵) and upwards. An index of 1 can be interpreted as “no particular influence”. A stakeholder with an index of 4 can be interpreted as having twice the influence as someone who has an index of 2.

The table shows that the most influential organisation is the US Department of Health and Human Services’ National Institutes of Health (NIH). NIH is an index of health resources and may not provide any data of their own.

NIH is cited by many of the other stakeholders in the relevant context (stem cells) and from a strictly mathematical point of view they are the most influential. However, one can argue that as they do not provide their own content they mainly convey the influence of others. That said the editorial process of NIH whereby they include some resources and exclude others (that they don’t deem relevant) is in fact a way of providing content of their own. So as part of their editorial process they do exercise their own influence.

The second most influential organisation is the BBC. The BBC is the world’s largest news organisation. The annual budget of the BBC is quite precisely 10 times bigger than that of University of Copenhagen. When an issue is on the public agenda – such as stem cells has been – the BBC usually plays a role in shaping the public opinion; especially in the UK, the north western part of the EU and Scandinavia.

It is interesting to observe the absence of Danish organisations among the top influencers. Apart from BioMed Community, a community representing the Bio- & Medical technology competences in Aalborg, Denmark and BioTIK⁶ a portal focusing on bio-ethical questions, the most influential Danish player is Retsinformation a state sponsored information system on legal issues. This could indicate that legal red tape is relatively more of a factor in Denmark than in the two other countries.

The most influential representatives from Sweden and Norway (University of Oslo, University of Lund, Karolinska Institutet and Uppsala University) are largely those one would expect to have a prominent position, the most influential research institutions from Denmark are University of Southern Denmark and University of Aalborg; two of the newest universities in Denmark.

⁴ A full Analytica Stakeholder Analysis usually contains the top 100-300 influencers

⁵ Equal to “no particular influence”

⁶ Not publishing new material, but still referenced by several other influential stakeholders.

Organisation	Website	Issue Influence Index™
National Institutes Of Health	www.nih.gov	7.82
BBC	www.bbc.co.uk	5.65
Universitetet I Oslo	www.uio.no	5.26
Lu - Lunds Universitet	www.lu.se	5.01
Det Etske Råd	www.etskeraad.dk	4.96
Nature	www.nature.com	4.94
Affärsvärlden	www.affarsvarlden.se	4.50
Karolinska Institutet	www.ki.se	4.11
Aftenposten	www.aftenposten.no	4.02
Forskning.no	www.forskning.no	3.86
Biomed Community	www.biomedcom.dk	3.86
Biotik	www.biotik.dk	3.66
Retsinformation	www.retsinfo.dk	3.56
The European Union	europa.eu.int	3.51
Uppsala Universitet	www.uu.se	3.29
Ny Teknik	www.nyteknik.se	3.19
De Nasjonale Forskningsetiske Komiteer	www.etikkom.no	3.17
Tidsskriftet	www.tidsskriftet.no	3.12
Hagedom Research Institute	www.hagedom.dk	3.08
Lægeforeningen	www.dadlnet.dk	3.04
Scientific American	www.sciam.com	3.01
Göteborgs universitet	www.gu.se	2.94
Danish Centre for Stem Cell Research	www.dasc.dk	2.87
Syddansk Universitet	www.sdu.dk	2.84
Forskning.se	www.forskning.se	2.75
Medicon Valley	www.mediconvalley.com	2.74
Aalborg Universitet	www.auc.dk	2.72
Danish Broadcasting Corporation	www.dr.dk	2.69
Novo Nordisk	www.novonordisk.com	2.68
MCRS	www.mcrs.dk	2.49
Wiley	www.wiley.com	2.44
NY Times	www.nytimes.com	2.43
Indenrigs- Og Sundhedsministeriet	www.im.dk	2.42
Erik Statts Weblog	www.mymarkup.net	2.39
Vårdförbundet	www.vardforbundet.se	2.38
Harvard Medicine	www.hms.harvard.edu	2.37
Norges forskningsråd	www.forskningsradet.no	2.36
Universitetet I Bergen	www.uib.no	2.36
PNAS	www.pnas.org	2.36
Bioteknologinemnda	www.bion.no	2.36
Vetenskapsrådet	www.vr.se	2.36
Bone Marrow Donors Worldwide	www.bmdw.org	2.34
Københavns Universitet	www.ku.dk	2.30
Folketinget	www.ft.dk	2.27
Umeå universitet	www.umu.se	2.26
Stiftelsen för Strategisk Forskning	www.stratresearch.se	2.26
NRK	www.nrk.no	2.23
Kræftens Bekæmpelse	www.cancer.dk	2.21
Teknologirådet	www.tekno.dk	2.21
Politiken	politiken.dk	2.20
Science Magazine	www.sciencemag.org	2.17
Kungl. Vetenskapsakademien	www.kva.se	2.16
Ministry of Foreign Affairs - Norway	odin.dep.no	2.15
Legeforeningen	www.legeforeningen.no	2.15
Aarhus Universitet	www.au.dk	2.12
Helse Sør	www.helse-sor.no	2.12
University of Tromsø	www.uit.no	2.11
Läkemedelsindustriföreningen	www.lif.se	2.04
SBU	www.sbu.se	2.01
New Scientist	www.newscientist.com	2.00
Lund Stem Cell Center	www.stemcellcenter.se	2.00
Caltech Department Of Chemistry	chemistry.caltech.edu	1.97
British Medical Journal	www.bmj.com	1.96
International Society For Stem Cell Research	www.isscr.org	1.96
Circulation	circ.ahajournals.org	1.96
Chalmers	www.chalmers.se	1.95
University Of Wisconsin-madison	www.wisc.edu	1.91
NTNU	www.ntnu.no	1.90
Rigshospitalet	www.rigshospitalet.dk	1.89
The Government of Sweden	www.sweden.gov.se	1.88
Stockholms Universitet	www.su.se	1.87
Sciencedirect	www.sciencedirect.com	1.87
NsGene	www.nsgene.com	1.86
Washington Post	www.washingtonpost.com	1.86
Netdoktor.dk	www.netdoktor.dk	1.85
Advanced Cell Technology	www.advancedcell.com	1.84
Nucleic Acids Research	nar.oupjournals.org	1.83
KVL	www.kvl.dk	1.82
VG	www.vg.no	1.82

Table 1 - Issue Influence Index™

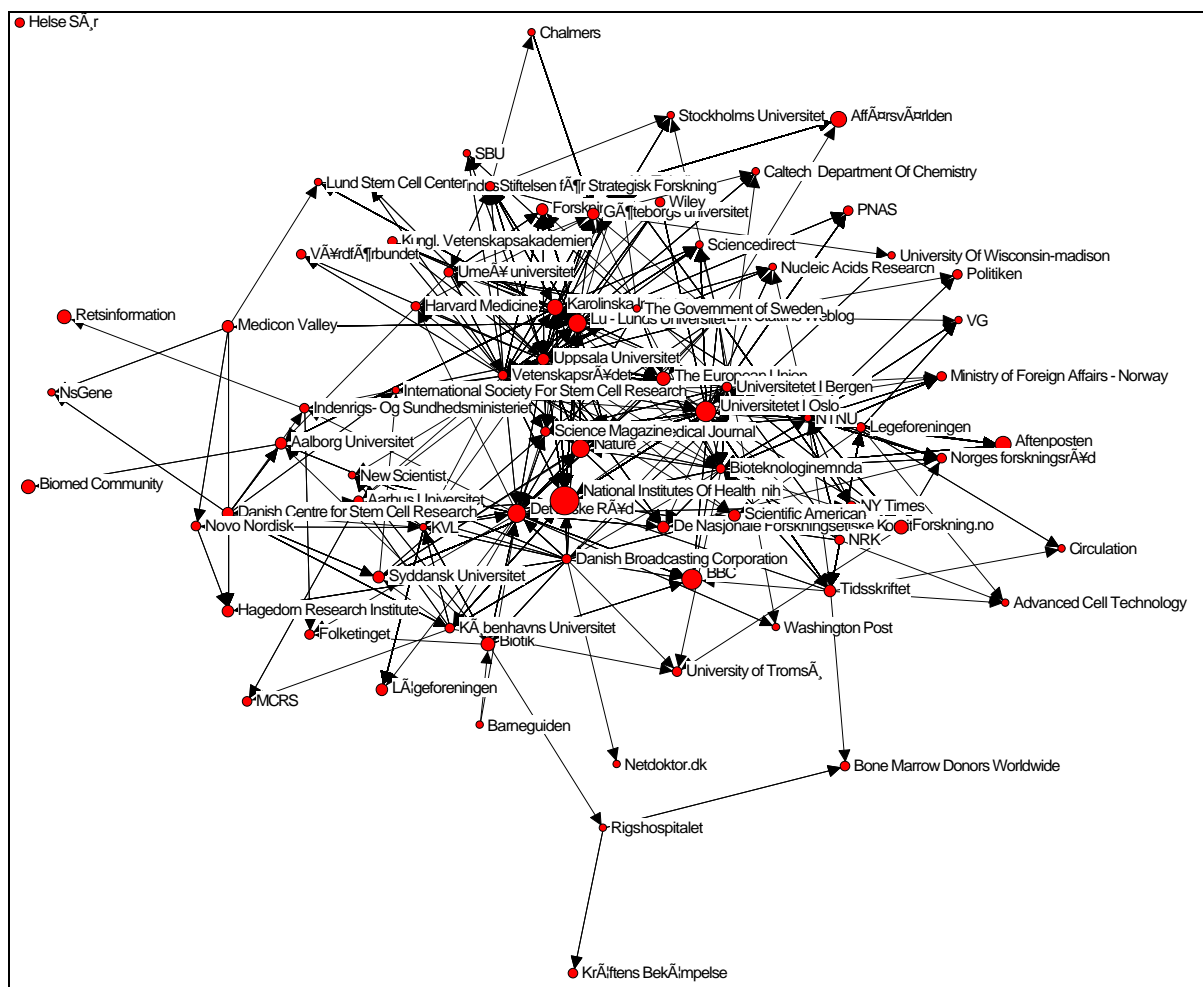


Figure 1 - Influence among top influencers (Table 1)

Figure 1 shows how organisations from Table 1 reference each other. The direction of the arrow shows the reference. The influence is consequently the other way.

The size of the dot representing each organisation is proportional to their total influence.

(Unfortunately the program generating the picture does not support Unicode characters which are used to represent Scandinavian letters.)

Organisation	Website	BC
Lu - Lunds Universitet	www.lu.se	11.1%
Bioteknologinemnda	www.bion.no	7.7%
Uppsala Universitet	www.uu.se	7.6%
Karolinska Institutet	www.ki.se	7.1%
Vetenskapsrådet	www.vr.se	6.7%
Det Etske Råd	www.etiskraad.dk	5.5%
Universitetet I Oslo	www.uio.no	4.1%
Danish Broadcasting Corporation	www.dr.dk	3.6%
Norwegian Center For Stem Cell Research	www.stemcell.no	3.0%
NTNU	www.ntnu.no	2.7%
Göteborgs universitet	www.gu.se	2.6%
The Government of Sweden	www.sweden.gov.se	2.5%
Danish Centre for Stem Cell Research	www.dasc.dk	2.3%
KVL	www.kvl.dk	2.2%
NRK	www.nrk.no	1.8%
Teknologirådet	www.tekno.dk	1.8%
Erik Stattins Weblog	www.mymarkup.net	1.7%
Universitetet I Bergen	www.uib.no	1.6%
Tidsskriftet	www.tidsskriftet.no	1.5%
Forskningsstyrelsen	www.forsk.dk	1.5%
Ministeriet For Videnskab Teknologi Og Udvikling	www.videnskabsministeriet.dk	1.4%
Biotik	www.biotik.dk	1.4%
idg.se	www.idg.se	1.4%
Forskning.no	www.forskning.no	1.4%
Rigshospitalet	www.rigshospitalet.dk	1.2%
Københavns Universitet	www.ku.dk	1.2%
Syddansk Universitet	www.sdu.dk	1.1%
Helse	www.helse.dk	1.0%

Table 2 - Top Information Influence (Betweenness Centrality)

Table 2 shows a metric popular in network analysis⁷. We refer to it as “Information Influence” because it gives a good indication of how central a stakeholder is to the distribution of information about the issue in focus.

News media and others with an editorial role (collection of information and then redistributing it in edited form to a large audience) usually have a high Information Influence.

Information Influence is not as good a measure of “real” influence as the Issue Influence Index™ in Table 1, but it shows who is a supplier of information about the issue to a large audience (directly or indirectly).

For advertisers, communications professionals and PR professionals, Table 2 is valuable because it shows where it is most effective to inject a message into the public arena in order to effectively spread to a large part of the stakeholder network.

⁷ Where it is often called “betweenness centrality”

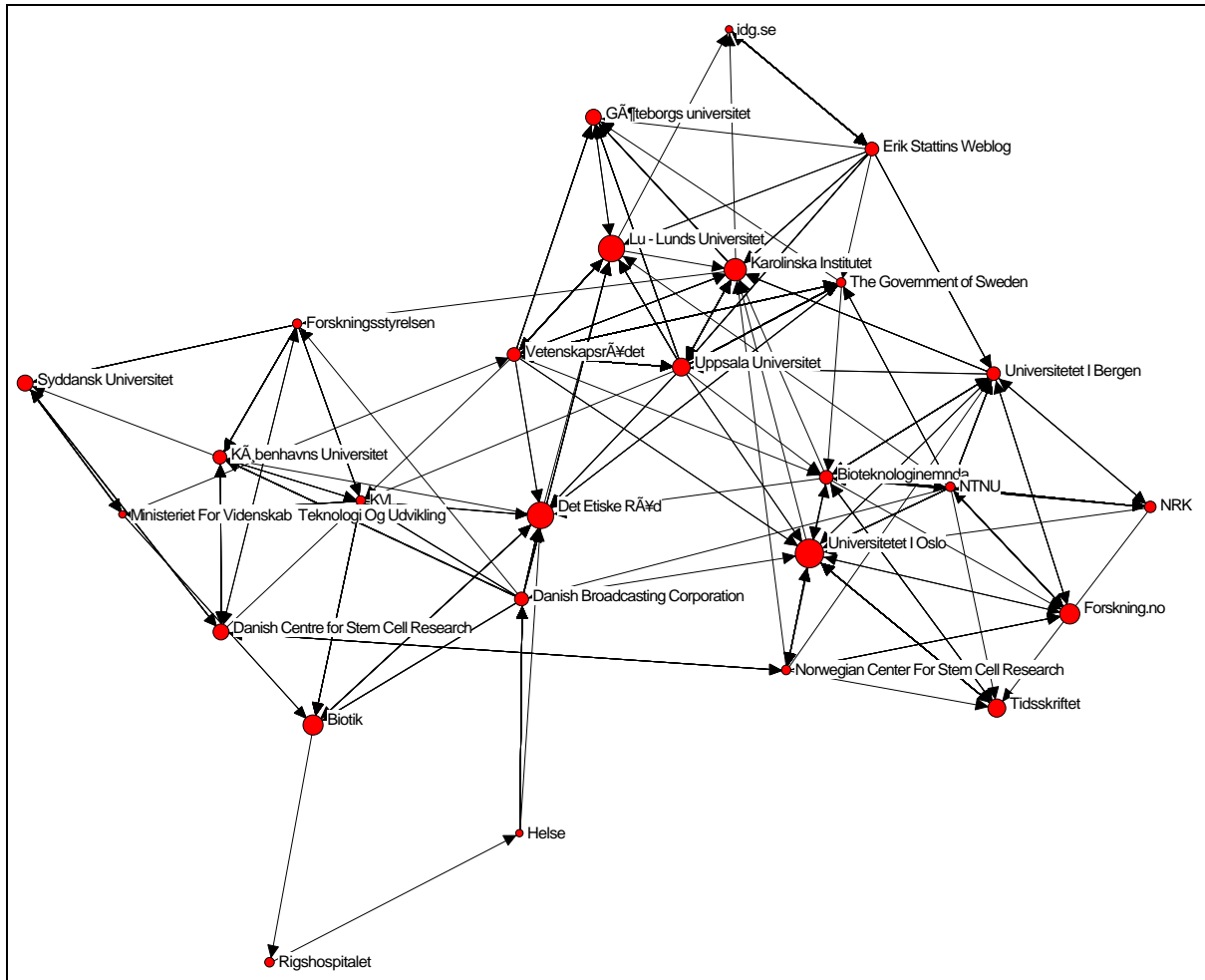


Figure 2 - Influence among top Information Influencers (Table 2)

Figure 2 shows how the organisations in Table 2 reference each other.

Again the size of the dot representing each organisation is proportional to their real influence as listed in Table 1.

Notes

Issue Influence Index™ is a trademark of Analytica Ltd.

The information in this summary may be quoted when Analytica is credited as the source. If quoted online, please add a direct web link to www.analytica.com