

## Who are the most influential authorities on “Bird Flu”?

Bird Flu .....	2
The Results .....	3
What is influence and how is it measured .....	5
How to measure the influence on an issue .....	7
Onalytica – How we can help .....	9

Report compiled during the period February 18-20 2006 by Flemming Madsen,  
Onalytica.  
You may quote from this report when clearly referencing Onalytica as the source.  
© Onalytica Ltd 2006, all rights reserved.  
Issue Influence Index™ is a trademark of Onalytica Ltd.

## Bird Flu

The fear of a possible bird flu pandemic is causing concern to governments and health organisations around the world.

We decided to measure who the world relies on when it comes to information about bird flu.

To measure influence we use a scientifically recognised methodology called citation analysis. (See a more detailed description after the results section)

Measuring influence this way assumes that when a person mentions another person in a particular context then it is because the former person thinks the latter is relevant to the context.

And, since the former thinks the latter is relevant to the context the latter has some influence on the former.

The actual amount of influence is initially irrelevant. It's whether or not there is influence that matters.

The practicalities of measuring influence this way are to first find everything that has been written about an issue. We achieved this by automatically downloading everything we could find that was freely available on the internet that contained any of the following words or phrases:

- "bird flu"
- "avian influenza"
- "avian flu"
- "H5N1"

We then identified who was referencing whom in this context. (A reference can be a textual reference or a hyperlink).

These references were then used as equations in a massive simultaneous equation system that produces the influence of each stakeholder as a result.

## The Results

<i>Organisation</i>	<i>Website</i>	<i>Issue Influence Index™</i>
WHO	www.who.int	29.53
OIE	www.oie.int	21.92
FAO	www.fao.org	21.78
CDC	www.cdc.gov	14.44
European Union	www.eu.int	12.98
Government of Canada	www.gc.ca	8.69
ROCHE USA	www.rocheusa.com	8.48
UN Vietnam	www.un.org.vn	8.47
DEFRA	www.defra.gov.uk	8.22
PandemicFlu.gov	www.pandemicflu.gov	7.45
USDA	www.usda.gov	7.42
National Institutes Of Health	www.nih.gov	7.15
Department of Health	www.hhs.gov	6.43
Wildlife Conservation Society	www.wcs.org	6.04
Science Magazine	www.sciencemag.org	5.67
Department of Health	www.dh.gov.uk	5.20
The White House	www.whitehouse.gov	5.16
Wageningen University	www.wur.nl	4.71
US Dept. of State	www.state.gov	4.18
Nature	www.nature.com	3.73
Health Protection Agency	www.hpa.org.uk	3.68
US Geological Survey	www.usgs.gov	3.46
FDA	www.fda.gov	3.44
OSHA	www.osha.gov	2.93
NPR	www.npr.org	2.79
Government of Hong Kong	www.info.gov.hk	2.68
EFSA	www.efsa.eu.int	2.55
The New England Journal Of Medicine	www.nejm.org	2.54
The World Bank Group	www.worldbank.org	2.54
The Lancet	www.thelancet.com	2.53
University of Chicago	biomed.bsd.uchicago.edu	2.50
Dept. of Homeland Security	www.dhs.gov	2.49
The State of Texas	www.state.tx.us	2.45
FSA	www.food.gov.uk	2.38
Foreign & Commonwealth Office	www.fco.gov.uk	2.34
University of Minnesota	www.ahc.umn.edu	2.33
ISID	www.isid.org	2.33
People's Daily	english.peopledaily.com.cn	2.31
NIBSC	www.nibsc.ac.uk	2.24
CNN	www.cnn.com	2.24
School of Public Health	www.ualbanycphp.org	2.21
PNAS	www.pnas.org	2.18
APHL	www.aphl.org	2.17
Financial Times	www.ft.com	2.15
BBC	www.bbc.co.uk	2.15
ASM	www.asm.org	2.12
NY Times	www.nytimes.com	2.12
Washington Post	www.washingtonpost.com	2.12
Health And Safety Executive	www.hse.gov.uk	2.11
Scienceblogs	www.scienceblogs.com	2.10

**Table 1 - Top 50 Influencers - "Bird Flu"**

Table 1 (above) shows the top 50 influencers on the topic of "Bird Flu". The Issue Influence Index™ is a linear influence scale ranging from 1 and upwards. An index value of 10 thus means "twice the influence" as index value of 5.

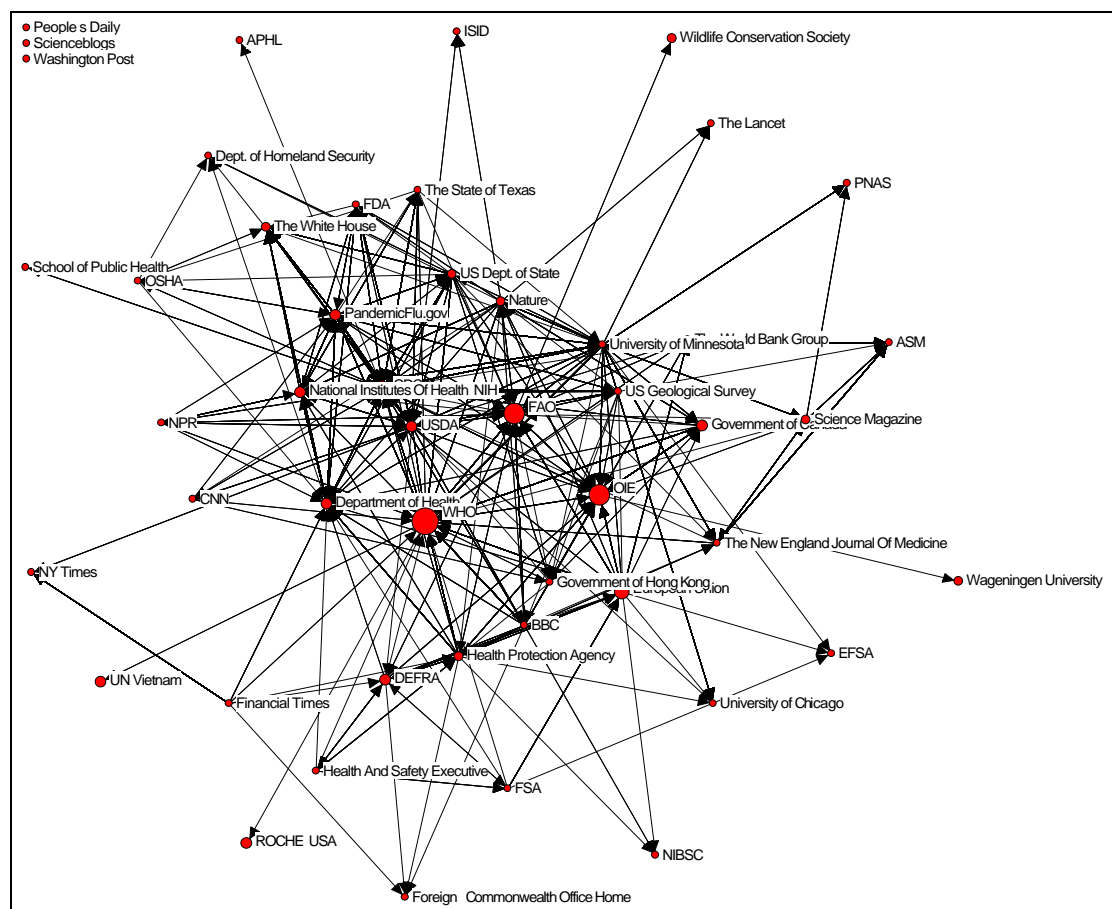
# analytica

Notice the substantial influence of the top three organisations, WHO, OIE and FAO.

The United Nations in Vietnam most likely gets its influence because several early cases of bird flu and fatalities amongst the human population in Vietnam.

Roche is most likely on the list because they are the principal supplier of the Tamiflu, an anti-influenza drug believed to have some effect on the current virus, H5N1.

(It is clear that the results favours English language media as search parameters, with the exception of "H5N1" are in English.)



**Figure 1 - Influence among top influencers - "Bird Flu"**

Figure 1 (above) shows how the top 50 influencers reference each other. Please bear in mind that all identified stakeholders outside the top 50 have been removed from the network picture.

## What is influence and how is it measured

In the internet community in general and in the blogosphere in particular there has been a growing understanding that search engines such as Technorati measure influence. They don't. They measure popularity which is something totally different.

When Technorati ranks blogs they count the number of link sources pointing to a blog. So a blog that has 10 inbound links has higher rank than one that has 5 inbound links. So far so good. The blog with inbound links from 10 different sources is clearly more popular than the one with 5 link sources.

However, when they use this measure of popularity as "authority" they are stretching it too far.

David Letterman may be popular when it comes to the topic of US national politics, but few would call him an authority on the topic.

(In Analytica we don't use the word "authority", but are more focused on "influence", but in this context, "influence", "authority" and "relevance" are closely related.)

Before moving on to explaining how influence is really measured I want to give a few examples why popularity is not a measure of influence, authority or relevance.

Imagine two websites A and B. They both write about the same topic – say US politics. Website A has inbound links from 2 sources and B from 10 sources.

B is clearly more popular than A, but is B also more influential?

We can't know from the data above.

Now imagine that website B is a blog written by a random 11-year old child as an assignment and those 10 who link to B are his or her class mates and the teacher of the assignment.

Imagine further that those who link to A are The New York Times and The Washington Post.

Intuitively website A is now the more influential. Why? Because it is deemed relevant by websites who are themselves influential on US Politics.

The above example touches on the first major reason why popularity and influence is not the same: All websites are not equal.

As in real life, your parents and family members may think you're the greatest authority on something, but unless they themselves have authority on the issue, it doesn't really make you an authority.

If popularity was a measure of authority (or influence or relevance) then two websites, where the first has inbound links from the 500 most trafficked websites would have the same authority as one who only had inbound links from the 500 least trafficked websites. This is clearly not the case.

# analytica

The last major complaint about using the number of inbound links as a measure of anything but raw popularity is that the number is not related to the context.

If you search Technorati for "bird flu" and only want to see posts with high authority you get a page full of links to large news media. Google News came up on top when I did it (Feb 17<sup>th</sup>, 2006).

Nobody believes that Google News is an authority on "bird flu". They are an automatic news aggregator.

The reason why they appear as the number 1 result is because they have an enormous number of inbound link sources.

But are those who link to Google News linking to it in the context of "bird flu"? Some may be, but I think it's safe to assume that people link to Google News from all sorts of contexts.

As a consequence of mixing up non-contextual popularity with authority on issues, the major news media appear to be the biggest authorities on anything.

*In fact, because Engadget, a hugely popular blog about "gadgets" has so many inbound link sources it appeared twice on the first page of the search results for "bird flu" in Technorati (filtered for maximum authority).*

*I'm sure it will come as a surprise to even the writers of Engadget that they are one of the world's foremost authorities on bird flu.*

So how is influence/authority/relevance then measured?

The answer is that you have to take the indirect influence/authority/relevance into account.

In the academic community there is no real debate about how to measure influence.

For more than 3 decades academics have used something called "citation analysis" to measure the influence of academic journals, researchers and universities.

In academic articles, writers cite the works of other academics. They do that for several reasons, but mainly because they believe that those they cite are relevant to the context. They point to other publications that are relevant to their arguments and to the context. In doing so they reveal which other publications have influenced them.

In citation analysis these citations from one journal to another are regarded as links.

These links are extracted and transformed into a huge system of equations. When solved the result is a relative measure of influence.

This way of measuring influence was developed by Russian born American [Wassily Leontief](#). He developed something called [Input/output analysis](#) to measure how sectors of the economy influence each other.

# analytica

If you're one of those who find joy in understanding how complex matrix-mathematics can give simple answers to complicated questions, then you will love his work.

The Nobel Committee did. They awarded him the [1973 Nobel price](#) in Economics for developing input/output-analysis and thereby solving the illusive problems of "circular influence"<sup>1</sup>.

## How to measure the influence on an issue

To make influence measurements operational (and relevant) they have to be tied to a context (or brand, company, etc.).

This is achieved by extracting only those references that are made in the relevant context of focus.

When calculating influence we make the basic assumption that a person references another person if the former thinks the latter is relevant to the context.

We assume this logic is systematic, meaning that this is a general reason for referencing others in a particular context.

It doesn't matter that people get referenced for other reasons (perfunctory reasons, reasons from limited knowledge, etc) as long as the same people (or websites, stakeholders, entities, etc) do not get systematically referenced when they are not believed be relevant.

The practical steps to gathering the data and measuring influence on an issue are:

First we define a search criterion. This can be simple or a set of rules. Simple ones typical give best results.

In this case our search criterion was to look for documents (web pages, blogs, pdf files, documents) that either contained the phrase "business blogging" or "business blog".

Using our own issue focused internet crawlers any document matching the issue was downloaded and analysed for references. (A reference can be a hyperlink or a textual citation. A textual reference to "The White House" would be treated equal to a link to [www.whitehouse.gov](http://www.whitehouse.gov))

The references are extracted from the documents and after some semi-manual consolidation and statistical filtering they are transformed into a massive system of simultaneous equations, consistent with Leontief's directions.

Once the equations are solved we have, viola, the relative influence of each stakeholder of the issue. We term this metric Issue Influence Index™.

---

<sup>1</sup> It's interesting to read the Nobel Committee's motivation for awarding him the price. Sometimes the price is shared between 2 or even 3 laureates. Sometimes the motivation is a bit vague because the laureate surely has made a big contribution to the Economic sciences, but the contribution may not have been in a single huge discovery/contribution but rather because of a long life of influencing Economic thinking. There is nothing vague about in the motivation for awarding Leontief the price. Actually it sounds more like the way a Las Vegas boxing presenter would introduce the heavy weight champion of the world before a title defence. The motivation starts "Professor Leontief is the sole and unchallenged creator of the input-output technique."

# analytica

The Issue Influence Index™ is a relative and linear measure of influence. It ranges from 1, which can be interpreted as “very little influence, but still more than no influence” and upwards.

An organisation with an index of 4 has twice the influence of someone with an index of 2.

# analytica

## Analytics – How we can help

At Analytica we are specialists in measuring and monitoring who has influence on issues, brands and companies.

We provide clients in the public and private sector with hard facts that enable them to better understand the playing field; more effectively bring their messages to market and quite simply, increase their influence.

Our services often focus on answering questions such as

- Who have influence on the public debate on a particular topic?
- From where are those who have influence getting this influence?
- What are they saying? What's their sentiment towards the issue and what is their angle or interest?
- Who do the influencers trust on the issue and take their information from?
- What characterises the various clusters of influential stakeholders of the issue?

We can analyse most topics including brands and companies.

We don't do PR, advertising or communication but we often work with agencies and consultancies to help them provide their clients with both better and new services.

Check our website for more information about what we do and our blog for the latest public studies.

Contact Flemming Madsen for a talk about any ideas you have on how influence measurements and stakeholder analysis can be relevant for the work you do.

Email: [flemmingm \[at\] Analytica \[dot\] com](mailto:flemmingm@analytica.com)  
Phone: +44 870 366 5254

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