

IRAHSS 08

Singapore

October 14, 2008



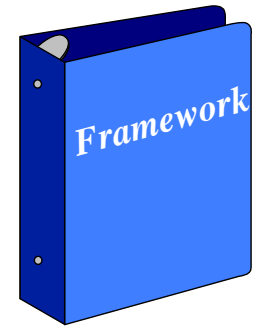
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Futures Studies
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The Two Phases of a Scanning Project



→ Research

- establishes what the general consensus about the future is today
- traditional research activity
- consists of filling in a framework document
- acts as the active benchmark for scanning

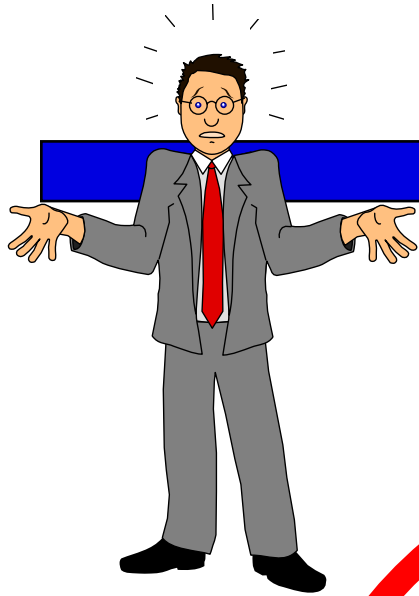


→ Scanning

- identifies what has changed or could change since the last framework exercise
- must change something in the framework
- optimizes the twin criteria of novelty and impact/relevance
 - novel hits tend to have longer term impacts
 - more relevant hits tend to be shorter term
- update the framework periodically to incorporate all hits since the last time



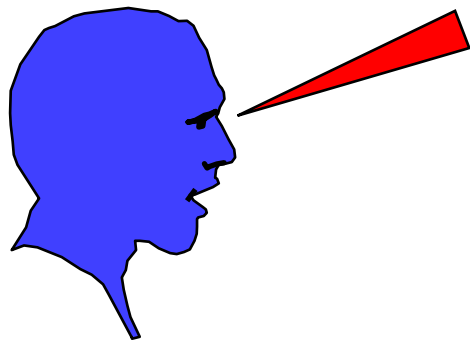
The Real Purpose of Scanning



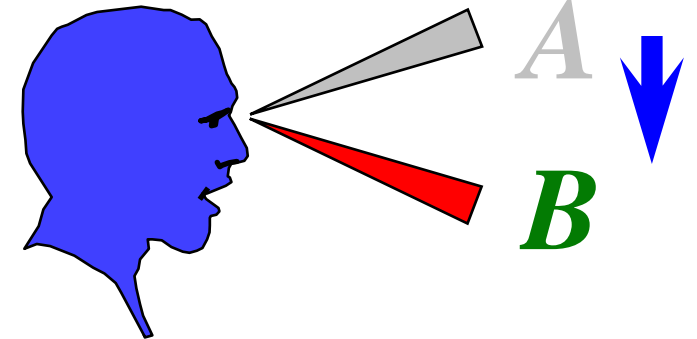
Scanning hits



Changing our image of the future



A

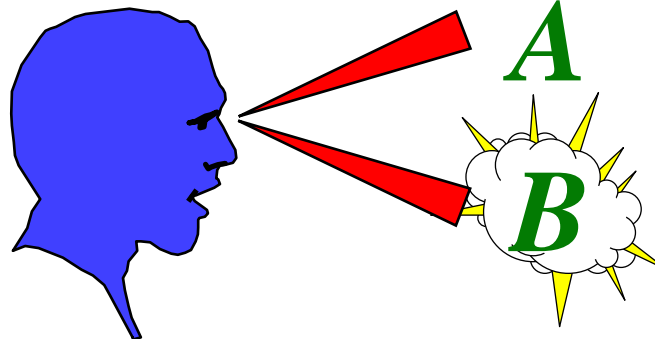


A

B

Confirming - 1

*Being surprised
in little ways
over a long time*



A

B

Creating - 5

Resolving - 3

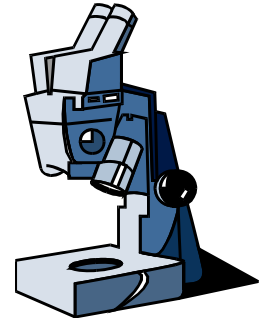
*rather than
in a big way
all at once.*

Criteria for a Good Scanning Hit



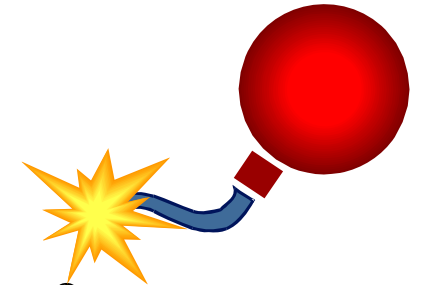
→ Credibility

- Is the source reputable?
- Are there confirmations elsewhere?



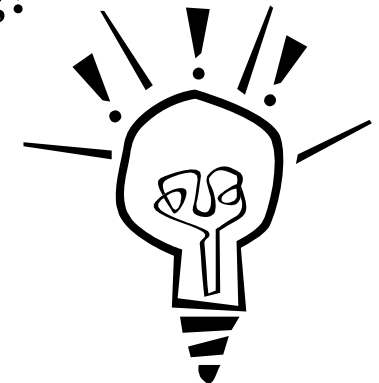
→ Novelty

- Is the hit new? Or has it been widely reported?
- Is it new to the client/audience?



→ Likelihood

- What are the chances that the hit will amount to something?
- Will it change the future?



→ Impact

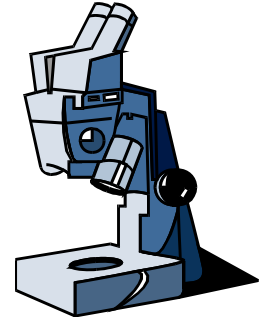
- If it does, how big a change will that be?
- Will it change the framework document?

Criteria for a Good Scanning Hit (cont'd)



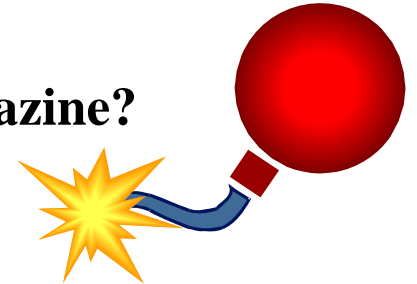
→ Relevance

- How important is that change to the client or the domain?
- Is the relevance direct or indirect?



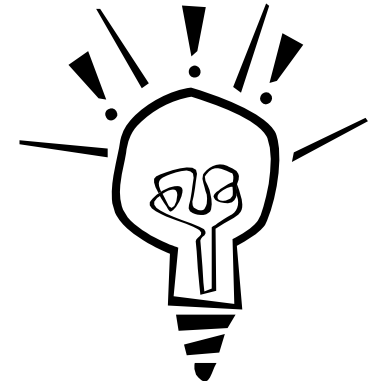
→ Timeliness 1 (time to awareness)

- How long before this information is widely known?
- When will it appear in a mainstream newspaper or magazine?



→ Timeliness 2 (time to prepare)

- How long before this hit begins to change the future?
- Is it too late to do anything about it?
- Is it so far off that action now would be premature?



Rating a Scanning Hit



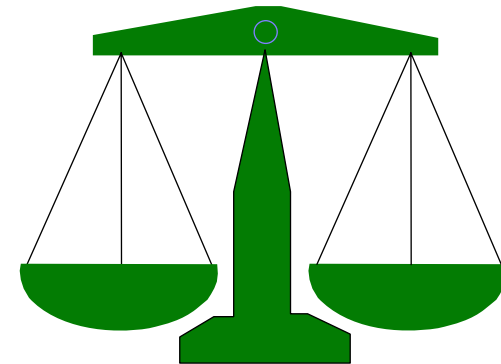
$$V = C * N * L * I * R * T_a * T_p * 100$$

Where

- **V** = value of the hit
- **C** = credibility of the source
- **N** = novelty of the hit
- **L** = likelihood of an impact
- **I** = size of the impact
- **R** = relevance of the impact
- **T_a** = time to general awareness
- **T_p** = time to prepare

Where

- **0** = no quality
- **50** = moderate quality
- **100** = maximum quality



Reasons why HS is hard



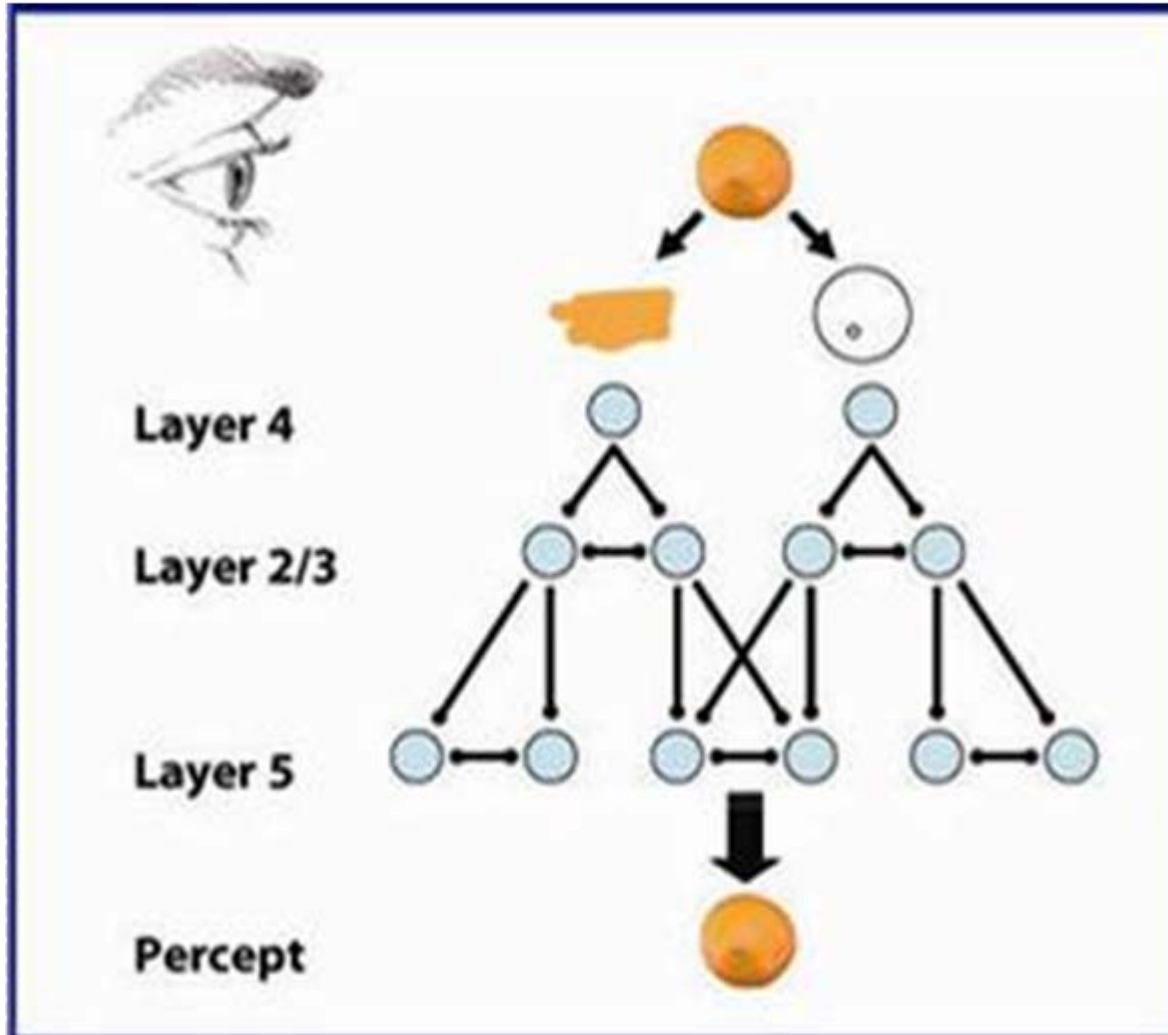
- Weak signals are **weak** – the signal to noise ratio is very low
- Early signals are **early** – the probability of impact is very low
- Three levels of information processing
 - Neural
 - Cognitive
 - Social

1. Neural processing – the visual system



- How to produce highly detailed images from relatively scanty data (i.e., photons on the retina)
- The strategy is multiple level formulation
- But how much of the image is from the outside vs the inside?
- How much of our knowledge is from the outside vs the inside?


1. Neural processing – the visual system



How much of the **percept** is from the inside vs the outside?

How much of our **knowledge** is from the inside vs the outside?

2. Cognitive processing – sense making

- 
- **Overwhelming pattern recognition machines, even when nothing is there (conspiracy, superstition, some would say religion)**
 - **Pattern, once recognized, is stable until new information arrives**
 - Inertia is like friction
 - Newton – a body, once in motion or at rest, stays that way until acted upon by a force
 - **But what constitutes “new”?**
 - One anomaly? Hardly. Alternative hypotheses (rationalizations?) are powerful
 - Many anomalies? Still harder when.....
 - The longer the pattern has been recognized
 - The more evidence it has accumulated over that time
 - The more people who accept it
 - The more widespread consequences of change
 - **Therefore, the more we know, the harder it is to change**

Human capabilities



→ Inherent tendencies?

- Knowing rather than not knowing
- Certainty rather than uncertainty
- Right answers rather than “I don’t know”

→ But people are different with different inclinations – is one a better scanner than the other?

- MBTI – iNtuitive (frame) vs Sensate (details)
- MBTI – Judger (certain) vs Perceiver (uncertain)
- Hemispheric dominance – left (schemas) vs right (details)
- KAI – adapter (system) vs innovator (novelty)
- Experience – expert (experience) vs novice (fresh perspective)

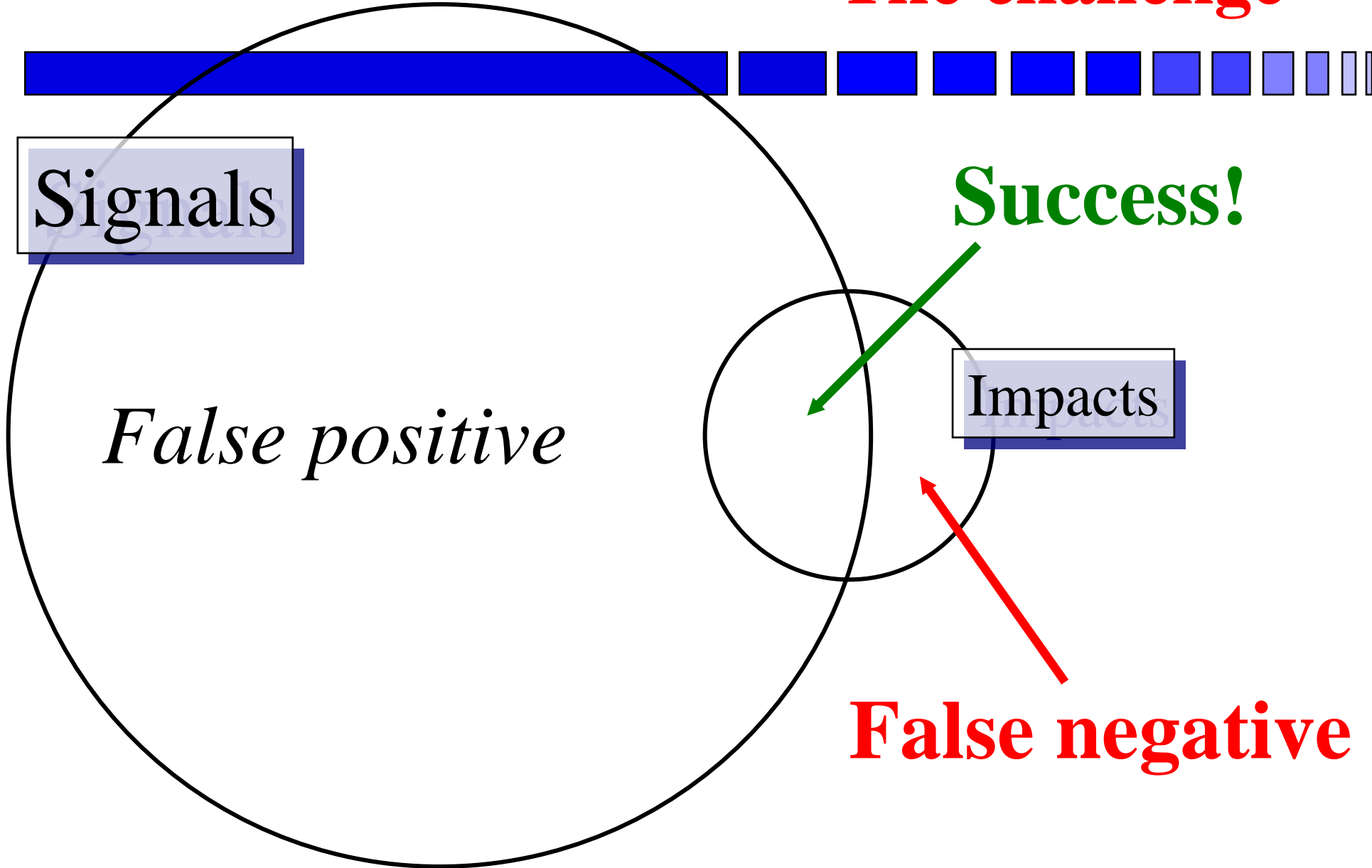
→ Good scanning is a balance of frame and detail, of figure and ground

The challenge



	Impact	No impact
Signal	Success!	<i>False positive</i>
No signal	False negative	

The challenge



As the number of signals goes up...



→ Prob (Success) goes up

→ Prob (False negatives) goes down

→ Prob (False positives) goes up

→ Prob (Success | Signal) goes down

Looking for the Sweet Spot

3. Organizational processing -- order



- **Organizational beliefs, mental models**
- **Courage to go against the existing schema**
- **Those who share weak signals are already marginal (external) or they become marginalized**
 - They are usually more in touch with unprocessed (raw) information
 - They have less to lose by changing mental model
- **Against the discipline to maintain order within the organization**

Suggestions



- 1. Build the team of horizon scanners,**
- 2. Train them on real signals and impacts.**
- 3. Require the submission of a specific number of hits from each person per time period.**
- 4. Review those hits by others (perhaps anonymously) and identify who gets closer to the sweet spot.**
- 5. Track false positives and false negatives over longer time and adjust the quantity of signals to reach the desired balance.**

Concluding thoughts



- **Horizon scanning offers one of the most important benefits in all human history – to know the future**
- **But great benefit requires great effort**
- **Goal:**
 - **A systematic program,**
 - **with the right individuals, and**
 - **the right balance of quantity and novelty**

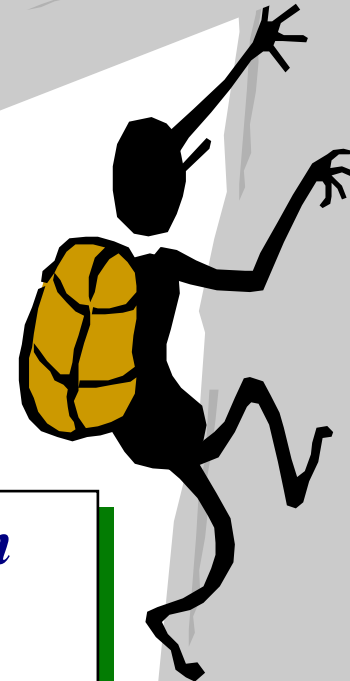
Two ways to the top



*Being surprised
in little ways
over a long
time...*



*...rather than
in a big way
all at once!*



For Additional Assistance



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