From ‘Fog of War’ to Reducing Noise in Daily Operations

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Over the last two years alone, 90% of the data in the world was generated.

Every minute of every day:

- Snapchat users share 527,760 photos
- Users watch 4,146,600 YouTube videos
- Instagram users post 46,740 photos
- More than 120 professionals join LinkedIn
- 15,000 GIFs are sent via Facebook messenger
- There are 154,200 calls on Skype
- 456,000 tweets are sent on Twitter
- There are 990,000 Tinder swipes
- We send 16 million text messages
- 103,447,520 spam emails are sent
- 156 million emails are sent; worldwide it is expected that there will be 2.9 billion email users by 2019

The Fog of War
Maybe you’re thinking, duh...

/me Removes sunglasses dramatically.

The Chinese missile frigate Yulin fires an anti-surface gun battery last month during exercises with Singapore’s navy in the South China Sea. Some analysts fear China is elevating its presence in the sea so it can conceal its submarines.

China may be using sea to hide its submarines...

...but we have to learn to think differently.
But we don’t want you to feel like this…
Ready to take things to the next level?
Bottom Line Up Front (BLUF)

- **The Problem**: Information overload, bias and inconsistency reducing the quality of human decision-making.
  - ‘Fog of war’ and ‘noise’ as metaphors for an exponential increase in complexity which influences decision fatigue and uncertainty in decision-making.

- **Toward the Solution**: Learning to reduce noise and bias, isolate important outcomes and ignore the rest.
  - ‘Clarity’ and ‘signal’ as metaphors for the rapid improvement of human-machine decision capabilities + new mental models for getting there.
  - Planting the seed, individually
  - Planting the seed, organizationally
Bias vs. noise

- **Bias**: In a nutshell: If you have strong opinions about COVID-19 and then you go looking for evidence that supports them, you’ll think you see it… no matter how outlandish those opinions are. You’ll also have a harder time absorbing evidence that points in the opposite direction.

- **Noise**: Erratic factors which reduce decision accuracy
  - Humans are unreliable decision makers
  - Strongly influenced by irrelevant factors, such as… Current mood, Time since last meal, The weather
  - Noise is far above the level that executives would consider tolerable—and they are completely unaware of it.
Noise Cont...

- Noise Audits
  - Unlike bias, noise can be measured without knowing what an accurate response would be. To illustrate…
- The ultimate goal is to improve the quality of decisions
- Not just reducing uncertainty for the policymaker, but improving the decision quality of the analyst herself
- Better decisions are not achieved merely by reducing general biases (such as optimism) or specific social and cognitive biases (such as discrimination against women or anchoring effects)
How to eliminate bias and noise?
How to reduce bias and noise?
Data-driven decisions (human in the loop)
Data-driven Decisions (vs. Data-inspired)

**Data-Driven**
- Solution: set the goalposts in advance and resist temptation to move them later
- In other words, the decision-maker has some homework to do before anyone analyzes the data, which will drive the decision confidence
- “I recently went clothes shopping in Brooklyn with my friend Emma. Showing off a pretty dress, she tugs at the pricetag on the back. ‘Hey, what does this say?’ she asks me. ‘If it’s less than 80 bucks, I’ll buy it.’” – Cassie Kozyrkov, Google Chief Decision Scientist

**VS.**

**Data-Inspired**
- Using data like that to feel better about actions we’re going to take anyway is an expensive (and wasteful) hobby
- Don’t form an uninformed opinion and then go foraging for media that confirms your views. you’ll just confirm whatever you wanted to believe.
Steps to Good Decisions (Decision Intelligence)

0. Remove Chaos - reduce or outsource irrelevant decisions (clothes, food) if they contribute to your decision fatigue

1. Understand you are an irrational person and accept uncertainty
   a) Humans generally suck at making probability estimates because they are inherently biased based on personal experience

2. Understand yourself and your objectives
   a) "Under what circumstances, if ever, am I willing to put a stranger's life at risk? How much risk?"
   b) What are my ethics? Values?
   c) Don't 'should' all over yourself...

3. Consider potential actions (the goalposts)
   a) "Is making a careful decision about it important to me?"
   b) If you struggle with this, think about what you DON'T want to do - try visualizing a scenario in your head and simulate which decision disappoints you more
   c) "What would I do if there were no COVID-19?"
   d) "Could anything convince me to do it?"

4. Choose action triggers (decision criteria)
   a) Default action (null hypothesis): Not to mask
   b) Alternative action: Mask
   c) Information that triggers change: Evidence that masking works

5. Choose minimum quality of sources (Think BEFORE gathering info - helps immunize you against confirmation bias)

6. Gather information

7. Act (or don't)
Practical Tips

- Identify what you are most vulnerable to
- Gather data central to that topic
- Take time to assess possible outcomes
- Narrow the body of implications
- Decide, Act
What if you’re like… I am 31337…?
Advanced Thinking Tooling

Tools of a System Thinker

- Disconnection
- Interconnectedness
- Linear
- Circular
- Silos
- Emergence
- Parts
- Wholes
- Analysis
- Synthesis
- Isolation
- Relationships

Reactive  Proactive  Predictive
Use trusted sources

- Emergent Risk International
- OODA Loop
- Farnam Street
- Living Security
- Recorded Future
- Proofpoint
- Domain Tools
- Crowdstrike
- MEMRI
- Soufan Group
- NJCCIC
- IC3
- And many others...

Executive Summary

- Market volatility continued today, with midl recoveries to stock prices, but weighed down by continuing worries about an oil supply glut and the impact of increasingly draconian measures to stem the spread of the virus in Italy.
- Italy's lockdown will affect economic activity across the country, although local residents are still permitted to travel to and from work. International flights reportedly continue, but all personnel leaving the quarantine area are expected to submit to health checks first.
- Companies across sectors are feeling the sting of a likely bear market and consumer resilience to travel amid mounting cases in the US and Europe.
- Work and daily life appear to be resuming in some parts of China, although Beijing remains cautious about too quick a resumption. Opacity in reporting continues to obscure the full picture.

From the Media

COVID-19 Cancellation Tracker - forbes.com
- Total: 10 March, 2020
- Millions of people have been forced to change their plans as the events around the world are cancel... (Text truncated)

Airlines reduce flights due to financial pressures from ... (Text truncated)
- Multiple US airlines have announced they will reduce flight offerings, freeze hiring and even cut... (Text truncated)

Convention & Visitors Bureau, City of Huntsville respond.
- Total: 10 March, 2020
- HUNTVLC, Ala. (APRIL) - Following the association of the United States Army (USA) announcement. (Text truncated)

Bay Area COVID-19 closings: Concerts, fests, school events
- Total: 10 March, 2020
- with Santa Clara County announcing a mandatory ban on all gatherings of more than 1,000 people, gone... (Text truncated)

These Credit Cards May Come In Handy If You Are ...
- Total: 11 March, 2020
- Your credit card may have benefits that will help you if you quarantine due to COVID-19.

Business Dynamics

General Industry
- Supply, Logistics and Medical

Global markets are highly likely to remain susceptible to COVID-19 induced volatility as geo-political events combine with disease outbreaks and government responses to amplify uncertainty and confusion. The large economies of East Asia may be closer to restarting, but Italy's nationwide lockdown will have repercussions across Europe, and supply delays from China are beginning to have a flow-on effect to other Asian manufacturing nations.

Economic Stimulus: More countries are announcing or planning economic stimulous to protect their economies from the global economic impacts of COVID-19. The White House and Congress will work today (Mar 10) to discuss possible stimulus to offset impacts from COVID-19, specifically a payroll tax cut, assistance for hourly wage workers and cheap loans for small businesses. The Senate-controlled House is pushing for expanded coverage of paid sick leave to be included in stimulus measures. The Japanese government on Thursday (Mar 10) approved a $33 billion plan to support small and medium-sized enterprises and self-employed workers affected by COVID-19 through low interest loans. EU governments have started to unveil stimulus packages as well, though of varying scope. For example, Ireland's $3.1 billion stimulus amounts to four times larger per capita spending than Germany's plan.

Stock Market/Finance: Major US stock indices rebounded at open on Tuesday (Mar 10) to climb from near bear market to match gains of around 9% across the board at time of publishing. Stock markets in Asia and Europe closed slightly higher as well, making up for the historic losses the previous day. With significant uncertainty about the future of COVID-19 and possible government-economies and disease containment measures, markets are expected to remain volatile. Volatility in the stock market and general economic uncertainty has restricted corporate bond market liquidity, making it more difficult for companies to obtain loans at short term interest rates needed by COVID-19. Major banks are arranging alternative work sites and remote working to ensure their operations can continue securely should their downtown offices in New York and London.

Agriculture and Food: Food prices in China in February rose 2.2% from the year previous, higher than January's jump of 1.5%, due to transportation restrictions, production suspensions and hoarding. The epidemic has also costed expected global...
Human decision-making (cognitive psychology)
How spinning the intelligence cycle helps you eliminate noise... (Threshing Floor)
PIRs for security & business

**ENEMY OFFENSE**

PIR: "Will the enemy launch a regimental- or battalion-size attack within my sector in the next 12 hours?" - Commander

Indicator: Reconnaissance and destruction of our defensive obstacles.

NOTE: Usually the night preceding an attack, enemy patrols reconnoiter friendly obstacles to determine a plan for clearing lanes. The patrol destroys only those obstacles that will not disclose the direction of the main attack. - Threat Knowledge

✅ *What emerging threats or vulnerabilities from the last 90 days must general end users understand?*

❌ *What are some new threats and vulnerabilities?*
Reflective Decision Journaling

**Decision Journal**

**Date:**

**Time:**

**Decision:**

**Mental/Physical State** (check boxes)
- Energized
- Focused
- Relaxed
- Confident
- Tired
- Accepting
- Accommodating
- Anxious
- Resigned
- Frustrated
- Angry

The situation/context:

The problem statement or frame:

The variables that govern the situation include:
Why?

- Improve decision outcomes
- Reduce decision fatigue
- Learn from mistakes
- Mitigate risk
- Enable competitive business decisions
- Reduce stress
- Save money, time & jobs
But what if my organization is still foggy?
The best time to plant a tree was 20 years ago. The second best time is now.

~Chinese Proverb
Planting the Seed, Organizationally
1. IT Operations
2. IT Security
3. Business Risk & IT Risk
4. Business Processes
5. External Factors
Lean Canvas

How to Fill in a Lean Canvas?

Uber Example

Based on Lean Canvas by Ash Maurya, adapted from the Business Model Canvas by Alexander Osterwalder, licensed under CC BY-SA 3.0.
Stakeholder Analysis

1. IT Operations
2. IT Security
3. Business Risk & IT Risk
4. Business Processes
5. External Factors
Where can we go?
How can we get there?
Filter & Fine tune!
References


https://hbr.org/2016/10/noise

https://livingsecurity.com

https://www.juncyber-ed.com/

https://fs.blog


https://hackernoon.com/data-inspired-5c78db3999b2