Making meaningful sense of CRM, FOQA, LOSA & Culture: Targeted Risk Reduction

Jetstar

Joey Anca, Manager Human System Risk

Composite Language

Visualize the Data

10-second Rule: If within 10 seconds, the data is not understood, then communication has failed'

Determine what Worry Looks Like

The Maestros: CRM Developers
- *Requisite Imagination*- 'the fine art of imagining what can go right or wrong
- They see the 'hidden' apart from 'what's going on'
- Foresee *Danger*

Targeted Risk Reduction
- What does Worry feel like?
- Visualize the data
- Talk to Maestros
- Get Governance to make the red flags **RED**

Big Data and the Alphabet Soup
- Patterns & uniqueness, not **Randomness**
- **Smart** data
- **Discrete** data
- **Maestros=CRM Developers**
- Brute force Culture

What does Good look like?
- We know what bad looks like: we FIX it
- But do we know what **GOOD** looks like?

Flight Operations Quality Assurance (FOQA)
- Normal people doing normal things
- No immediate feedback about errors (mostly inconsequential)
- (In)consequential outcomes captured by machines
- Undesired outcomes = fleet trends

Line Operational Safety Audit (LOSA)
- Normal people doing normal things
- Avoid & Trap = Good Flight
- (In)consequential outcomes captured by experts
- Undesired outcomes either recovered or exacerbated

LOSA FOQA Aggregation

Governance Must make red flags Red
- 8Pale of Business-**Elders**
- 8Pale of Company-**Deciders**
- 8Pale of Workgroup-**Doers**

Escalate Worry

Die Pacquiao *Ubermensch*

Brute Force Culture

NATIONAL · ORG · PROF → ORG · NATIONAL · PROF

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Toni Artés Photography

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- **Avoid & Trap = Good Flight**
- **(In)consequential outcomes captured by experts**
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LOSA=**Art of War** vs Human Limitations

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Brute Force Culture

NATIONAL

ORG

PROF

→

ORG

NATIONAL

PROF

Uber Culture

Number of Active U.S. Driver-Partners
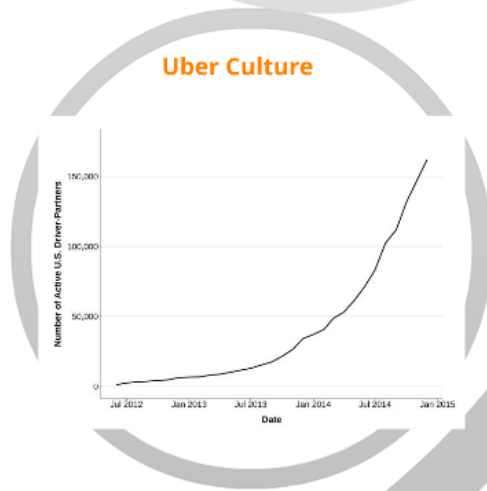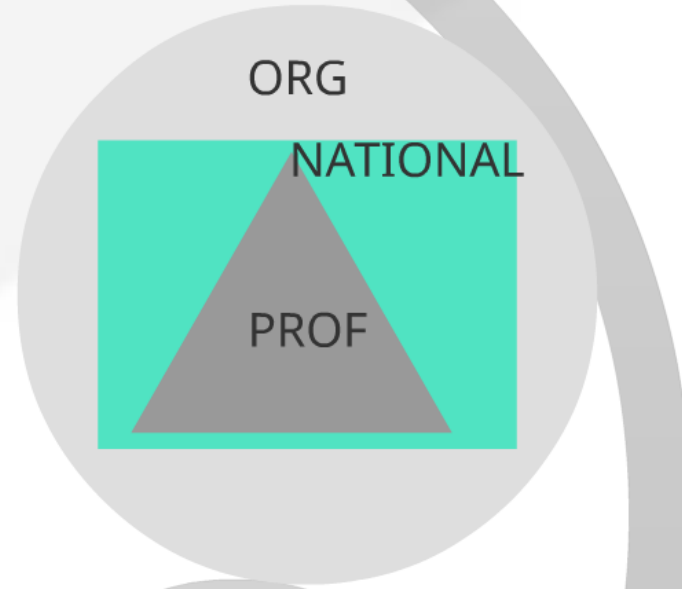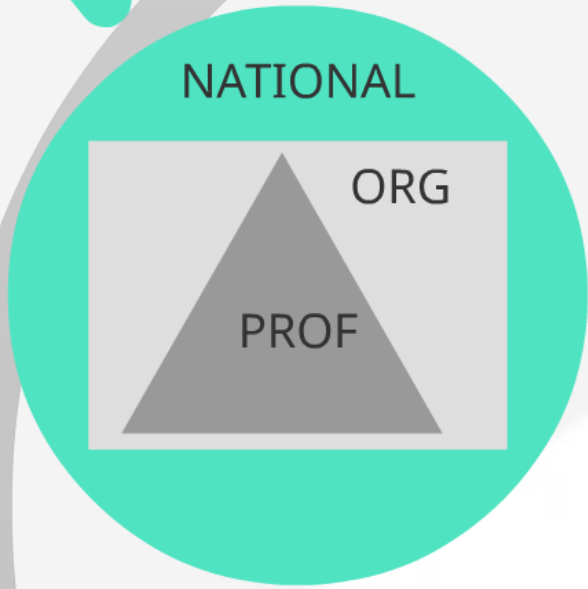
Uber Culture
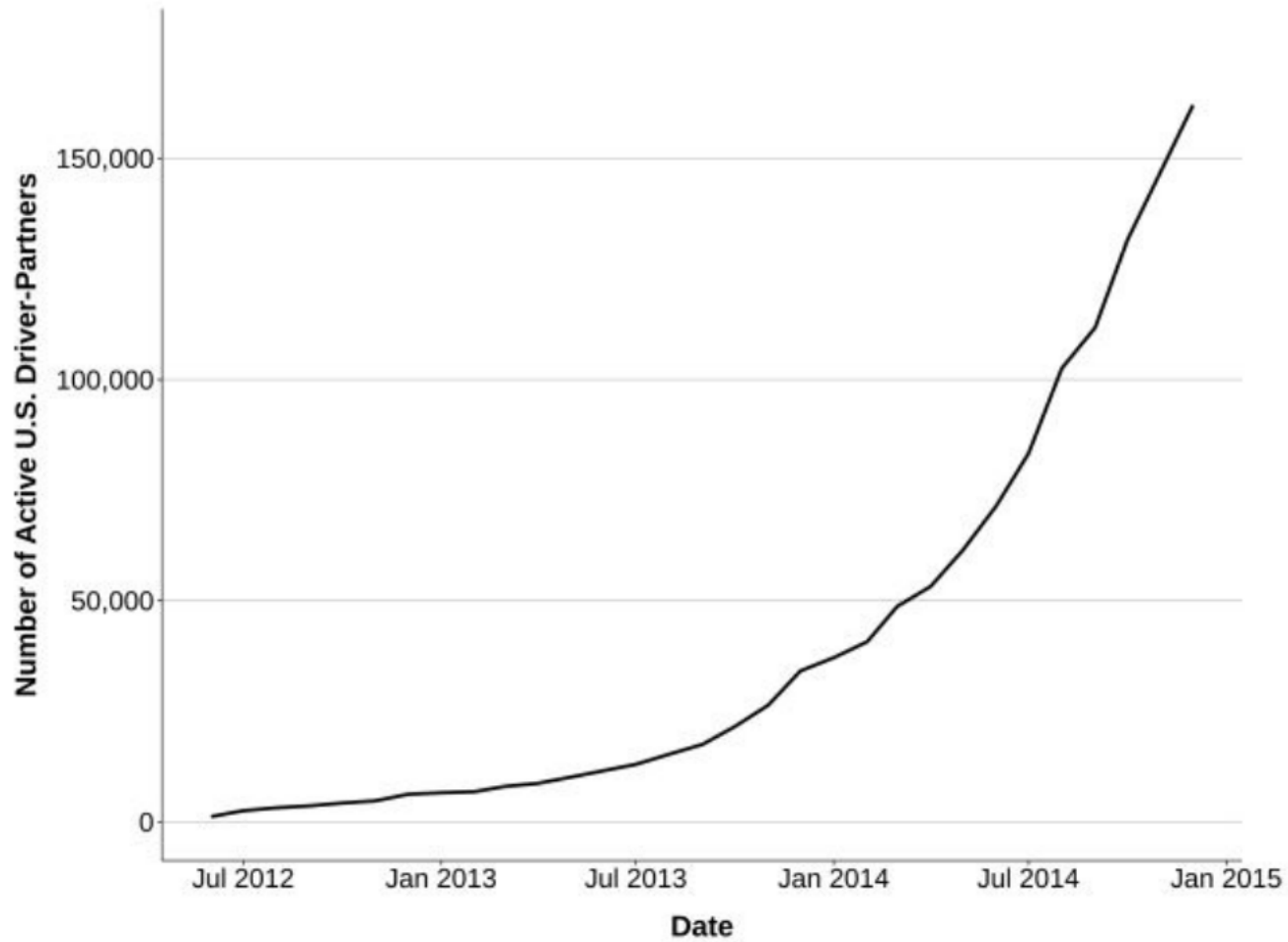
Die Pacquiao *Ubermensch*

Targeted Risk Reduction

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Determine what Worry Looks Like

- **Continuously Low during final**
- **GPWS Warning (1000-500ft)**
- **GPWS warning (above 1000ft)**
- **GPWS warning (below 500ft)**

- **Continuously slow during final**
- **Low energy situation in approach**
- **Flaps early retraction at take-off**
- **Speed low**
- **Alpha floor**
- **Take Off config warning**

- **Flaps late setting at landing**
- **Heading deviation at landing (above 60kts)**
- **Long flare time; long flare distance**
- **Rejected Takeoff**
- **Reversers delayed at landing**
- **Thrust asymmetry during landing rollout**
- **Continuously fast and/or high during final**

- **TCAS RA**

- **High speed exit detected**
- **Taxi speed high in straight line**
- **Taxi speed high in turn**
- **Thrust high during taxi**

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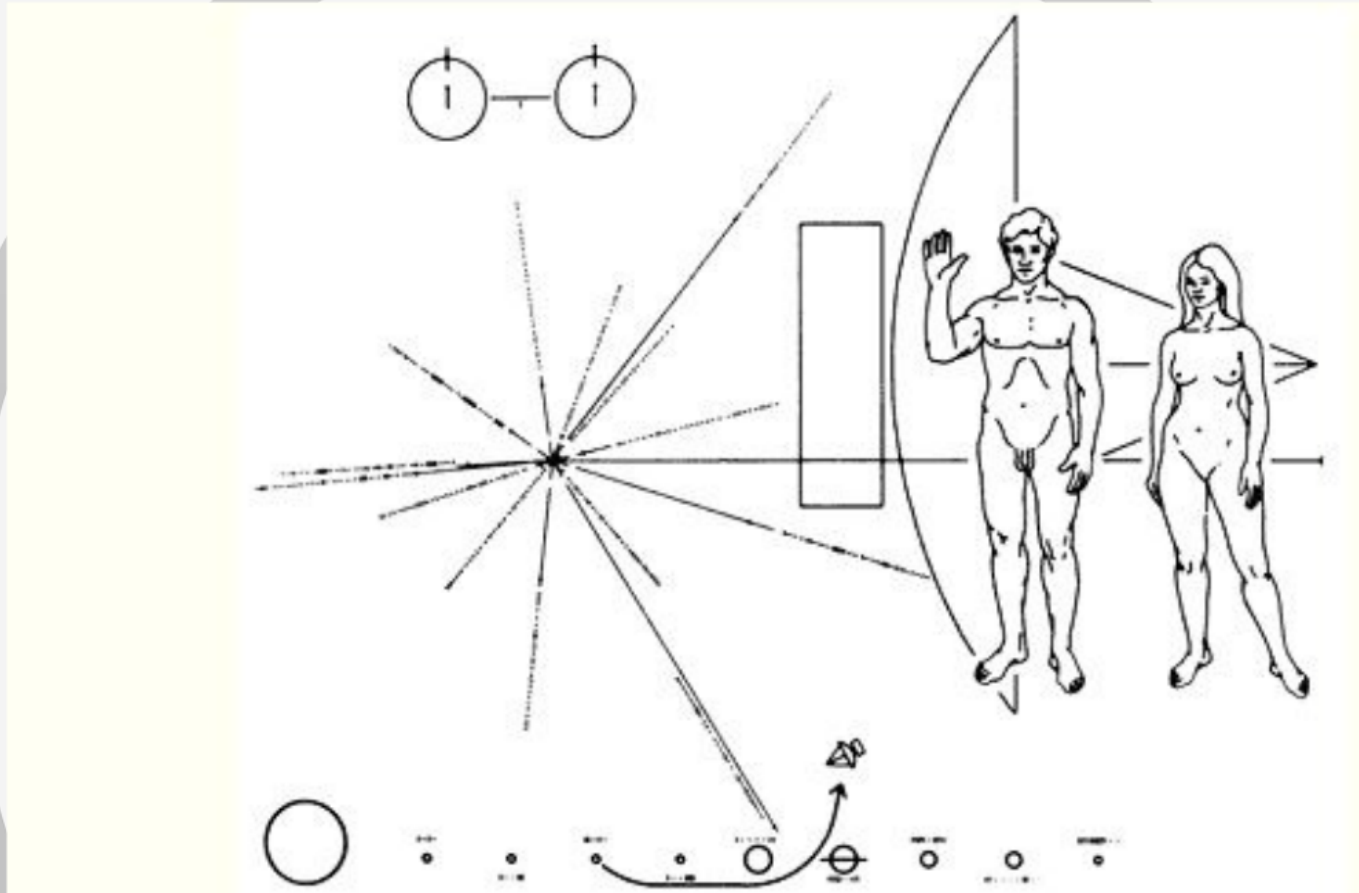
1812 Napoleon's Retreat from Russia

Pack as much information:
latitude, longitude, direction of movement, time, temperature, and size of the army

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Composite Language

FOQA Dataset

EXCEEDANCE1-CONSEQUENCE1-
EXCEEDANCE2-CONSEQUENCE2....

CONSEQUENCE3-EXCEEDANCE3-
CONSEQUENCE4-EXCEEDANCE4...

SMART dataset

THREAT1-ERROR1-EXCEEDANCE1-CONSEQUENCE1-THREAT2-EXCEEDANCE2-ERROR2-CONSEQUENCE2-THREAT3-CONSEQUENCE3-ERROR3--ERROR4-THREAT4...........

- Are there **PATTERNS**?
- Is there a one-off **UNIQUE** element?
- Consequence of a Theology of Marriage

The *Maestros*: CRM Developers

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- They see the 'hidden' apart from 'what's going on'
- Foresee **Danger**

They see what's Not Going On: Hidden

**Governance Must make red flags
Red**

- Whole of Business-**Elders**
- Whole of Company-**Deciders**
- Whole of Workgroup-**Skunkworks**

Escalate Worry

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