Incompetents, Accomplices or Criminals?
Panel Fraud in Health Surveys.

Ben White
Ludwig von Butler
Natalia Bogado

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Ben White
Founder & Director of
Technology

Ludwig von Butler
Co-Founder & Director of
Research

Natalia Bogado
Head of Production

Today's Speakers

We operate independently and do not represent any panel.

Not <u>all</u> panels are fraudulent as described.

Sensitive Data has been altered to show indicative results only.

Disclaimers

Introduction

Bots

Un Engaged Respondents

Professional Respondents

Honest Respondents
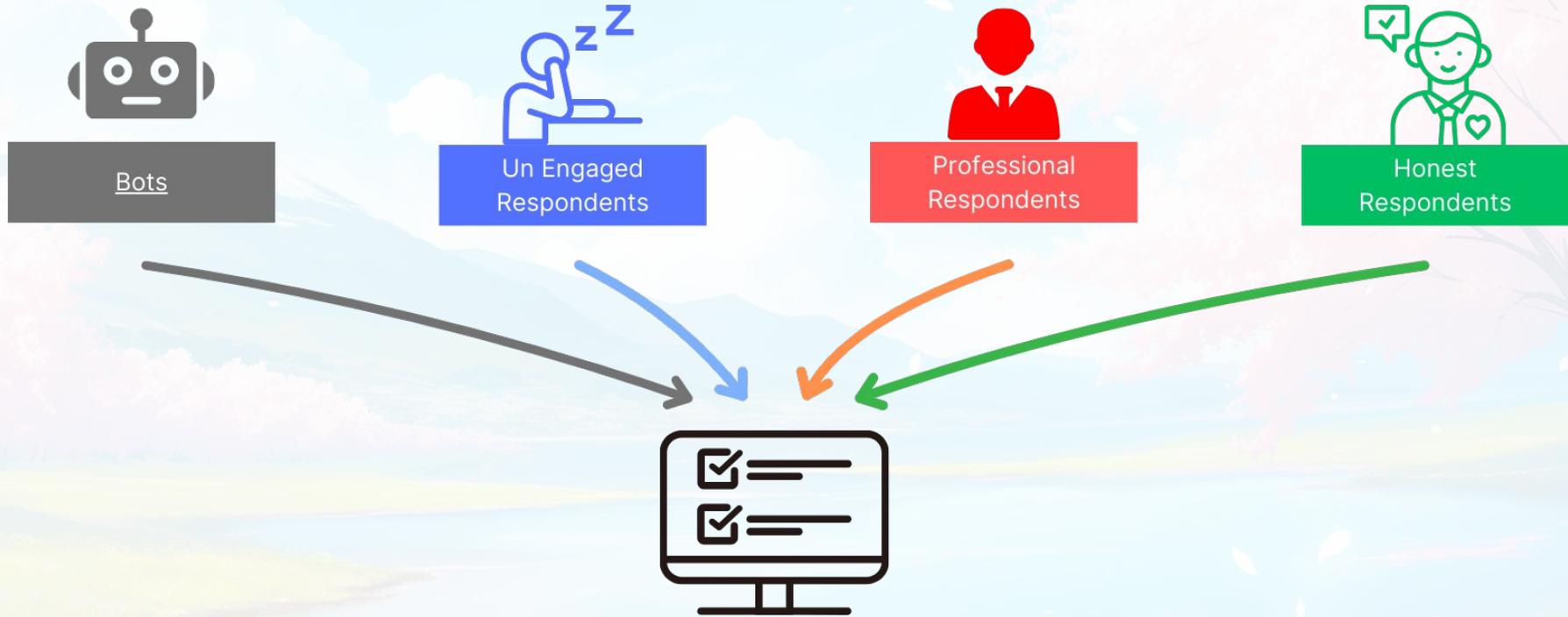
A Naïve Landscape

Respondents

Bots

Un Engaged Respondents

Professional Respondents

Honest Respondents

Panels

Criminals

'Incompetent' Panels

Reputable Panels
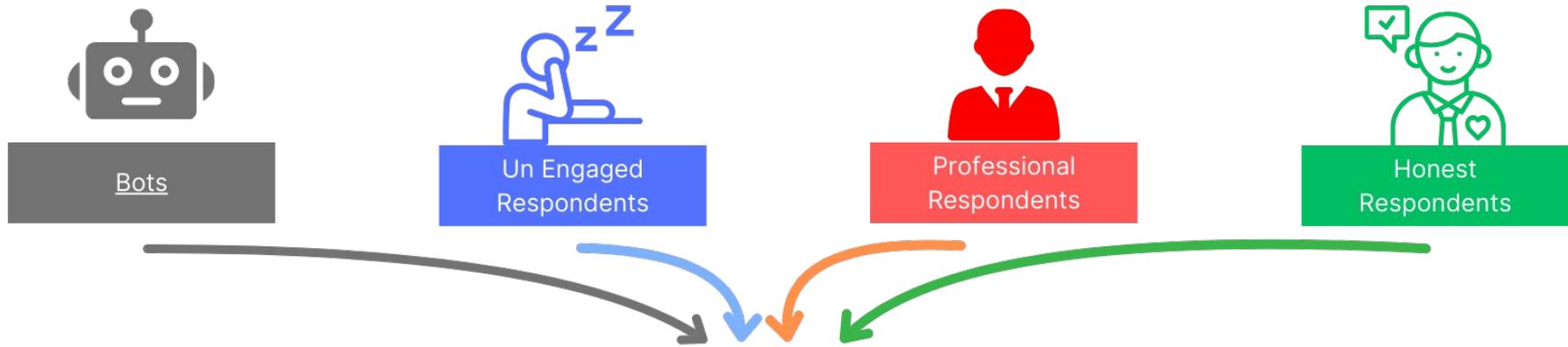
'Accomplice' Panels

Survey
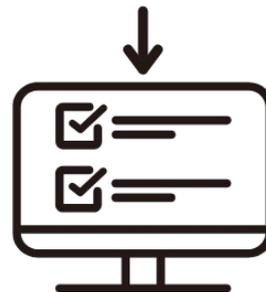
Panels are Intermediates

Big Claims – on feasibility.

Weak Controls – over respondents.

A Vulnerable Target - for scammers.

Low motivation – to police their users.

Low Penalty – for poor data.

The Incompetent

A Case Study on A Health Project in Australia

Extremely poor Behavioural model.

80% using VPNs, ages didn't match condition, typical access time was 2am, etc.

Likely the work of 2 individuals aided by lax controls.

Panel's quality claims did not match reality.
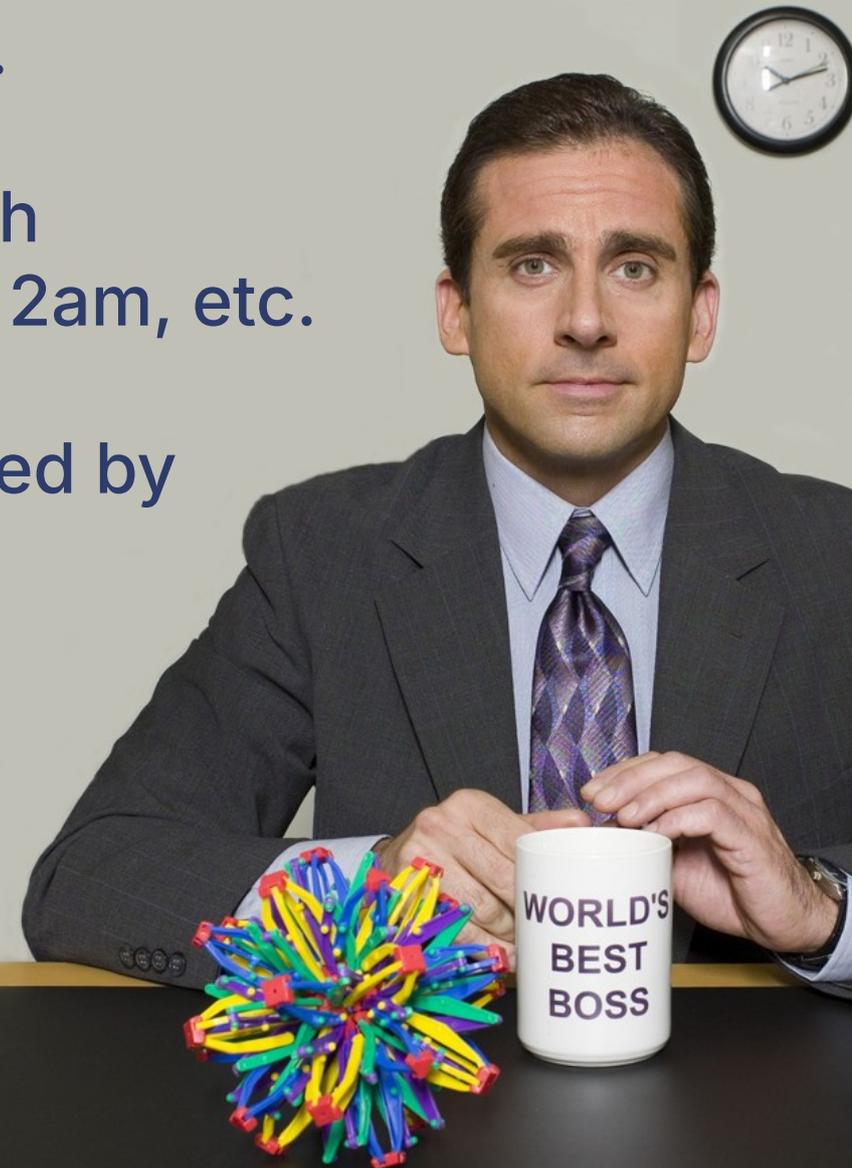
The Incompetent

The Incompetent
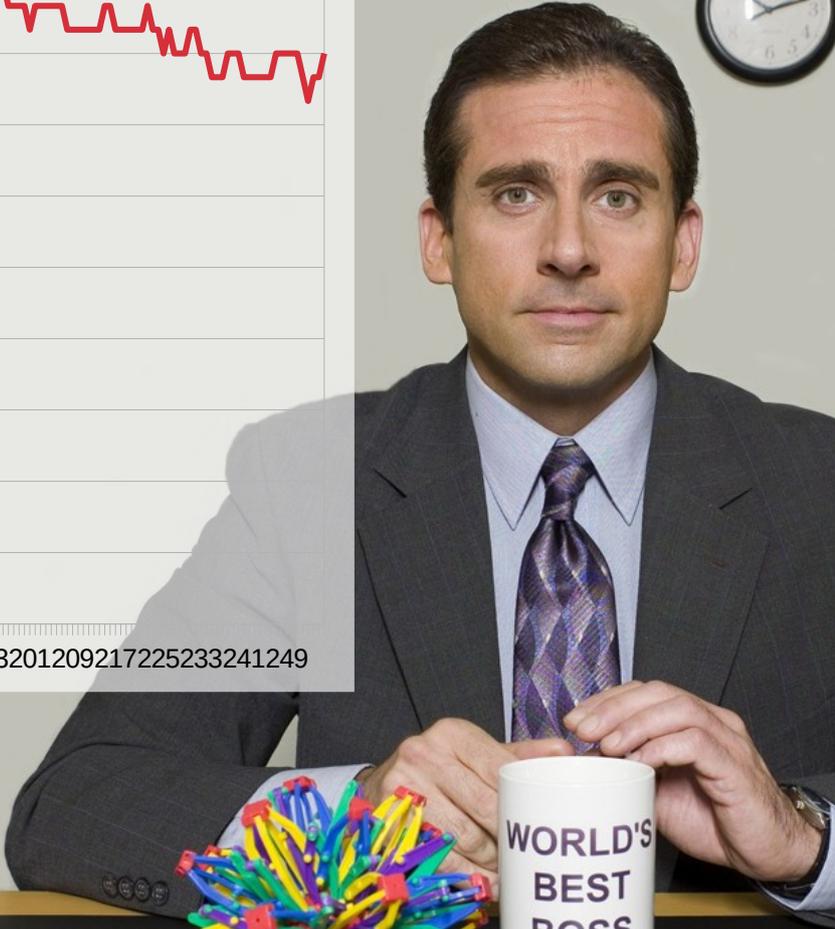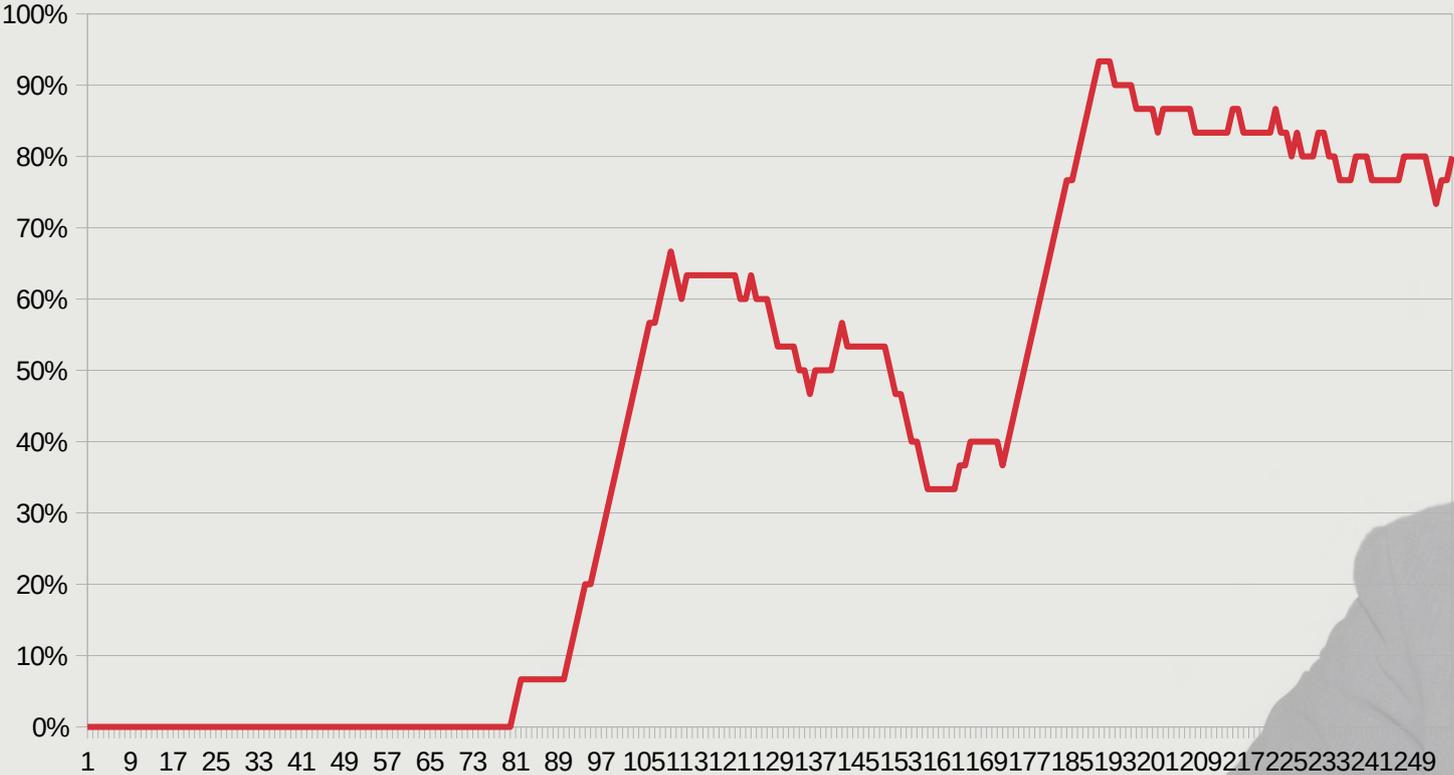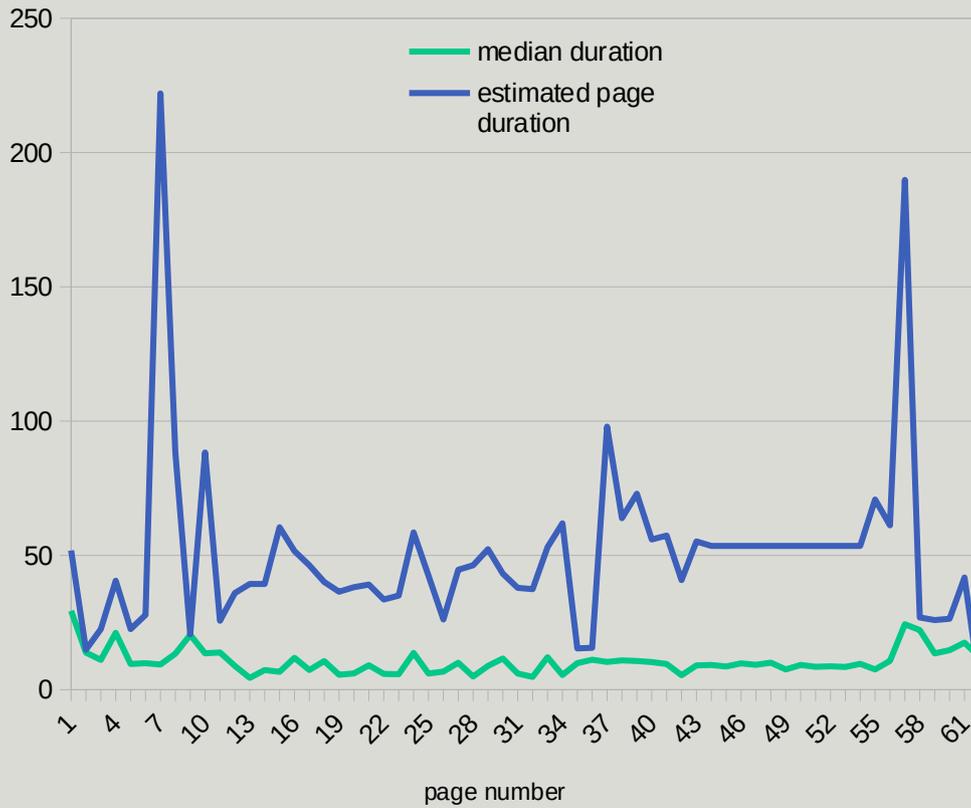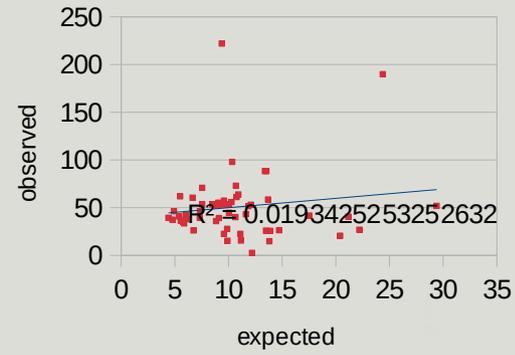
The Incompetent

Claims Feasibility – to win the business then maximises eligibility by …

**Coaching Respondents** on how to bypass screeners and quality checks.

'no-fault' no-payment - if clients are unhappy with the quality of the data.

Typical return is 10K a project for low cost GenPop sample

Difficult to detect – unless …

The Accomplice

.....*This is a quality check and you will need to select NONE OF THE ABOVE to proceed ahead. Please do the same once you are in the main survey.*
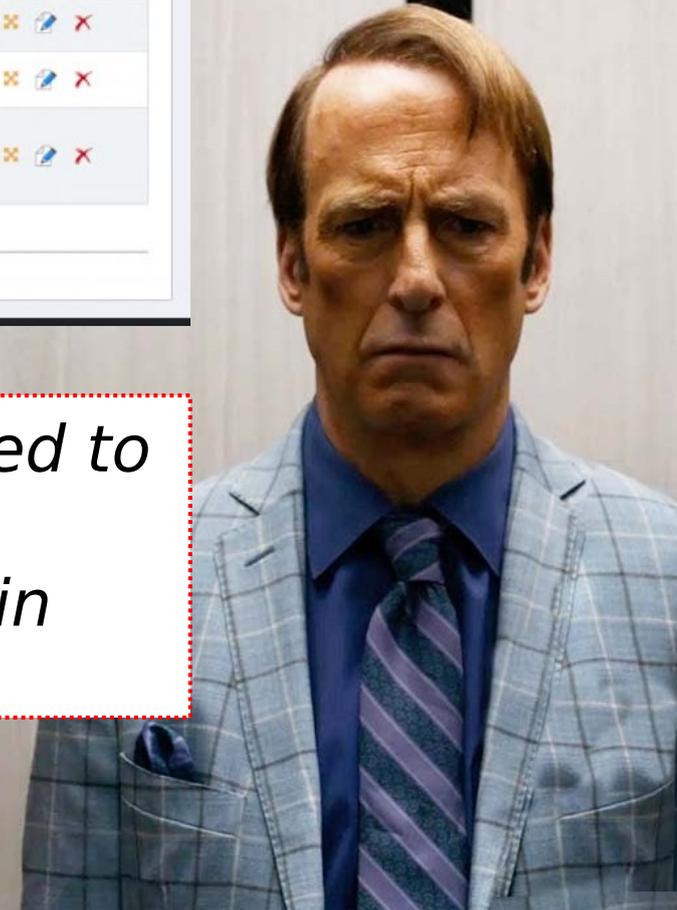
The Accomplice
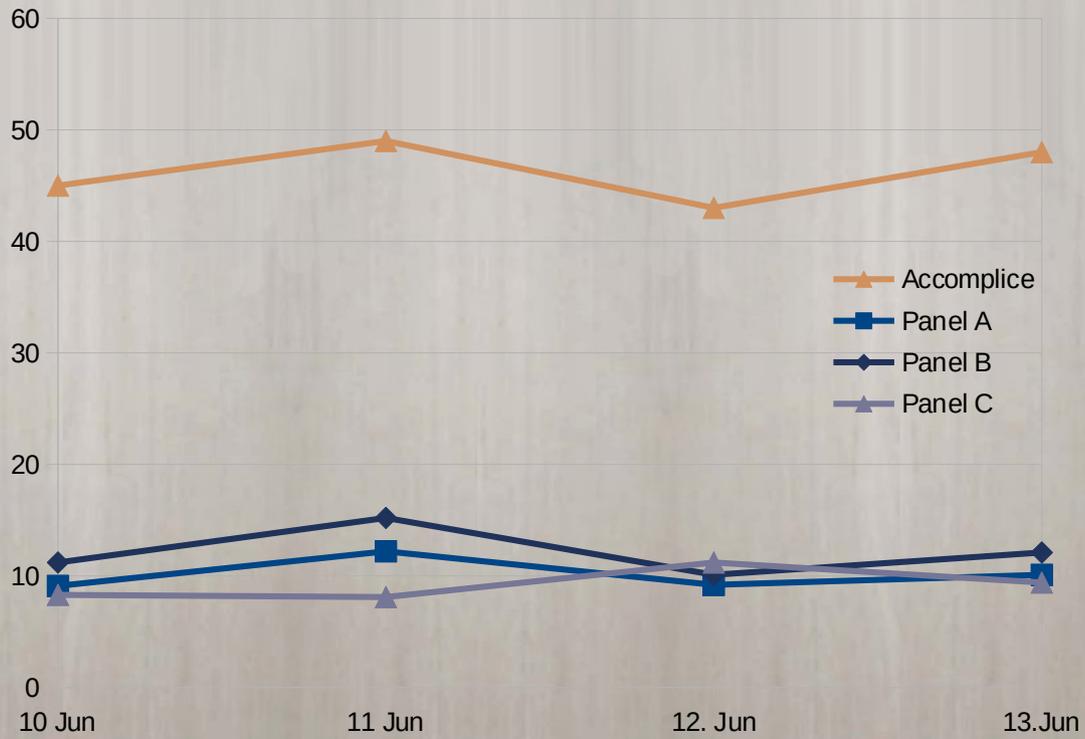
The Accomplice

Organised and Coordinated fraud on high value studies on vulnerable channels.

Could be posing as **panels <u>or</u> respondents.**

Either Bots, small groups or both.

Sophisticated tech – Macros, custom VPNs.

Setup lead time makes them vulnerable detection using to IR spikes and late wave access.

...Likely not their only scamming activity.

The Criminal

Incidence rate (IR) change by panel
prescreener, post Jan 1 2024 (N=6873)
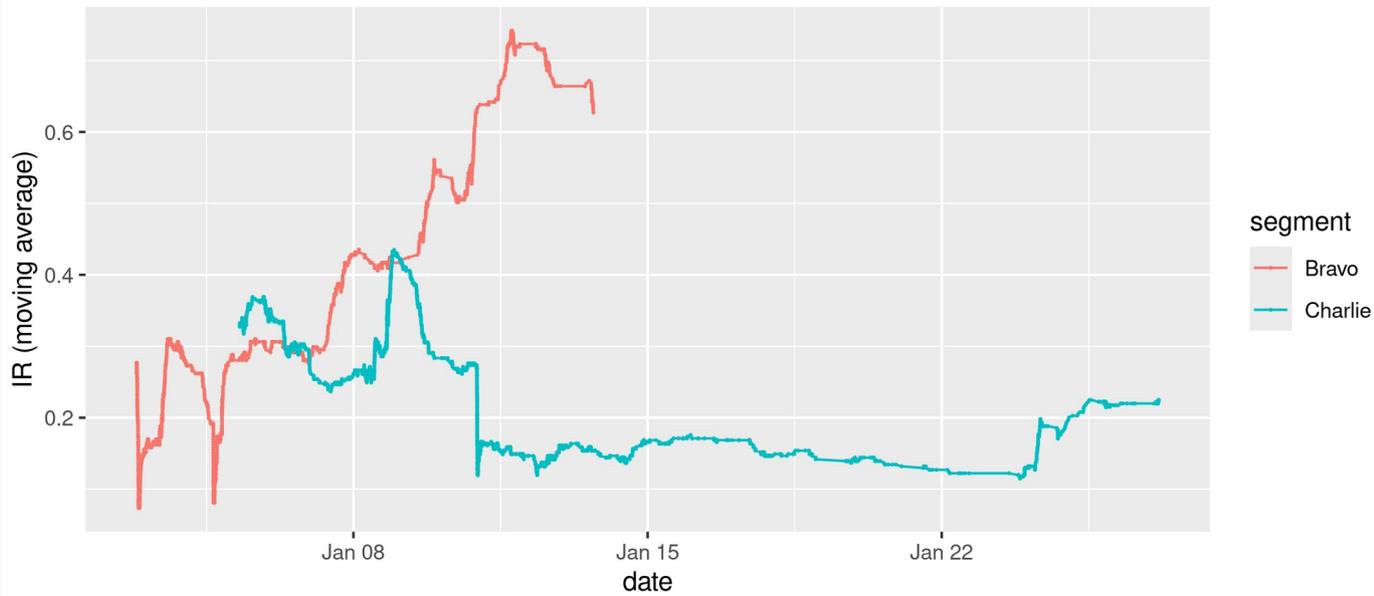
The Criminal
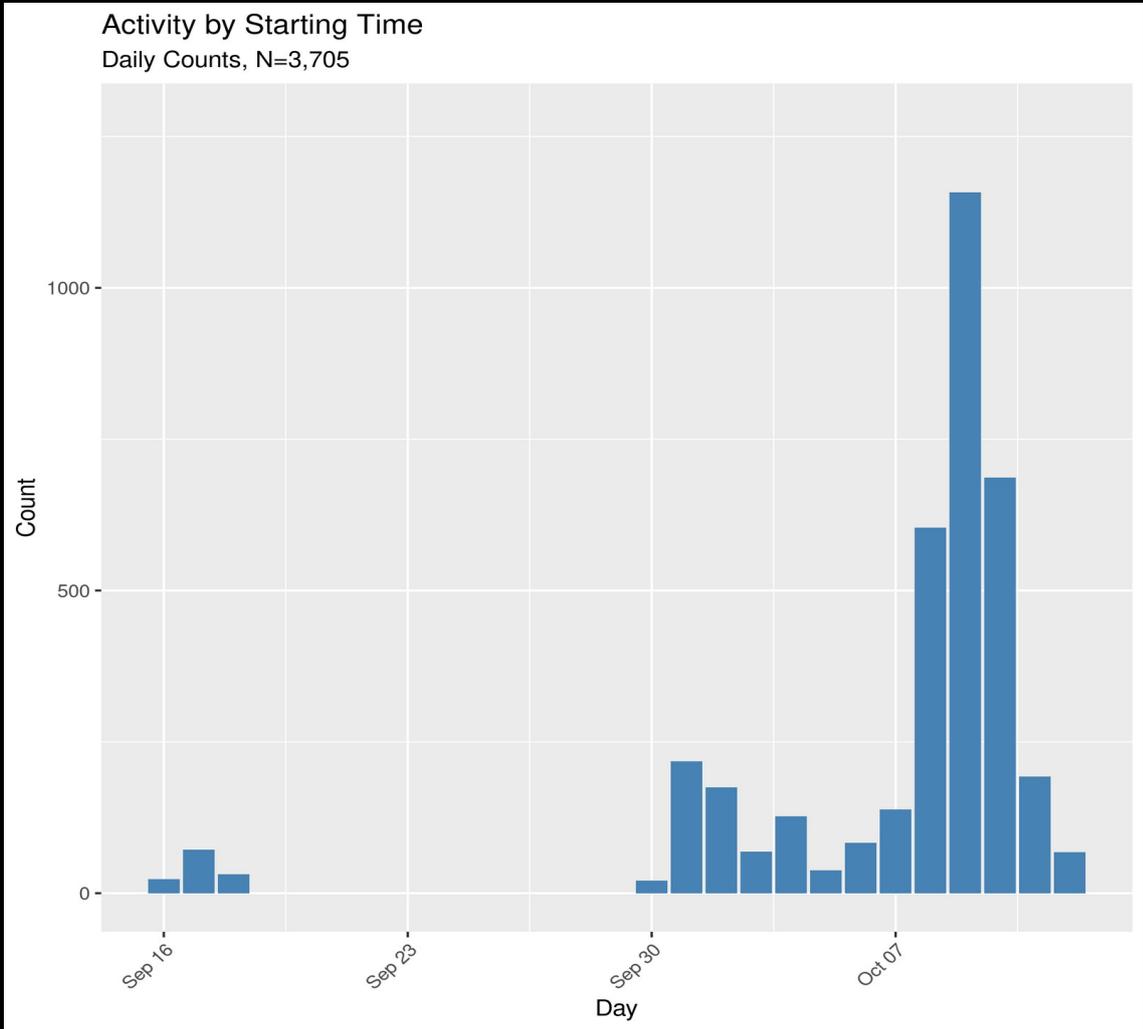
The Criminal
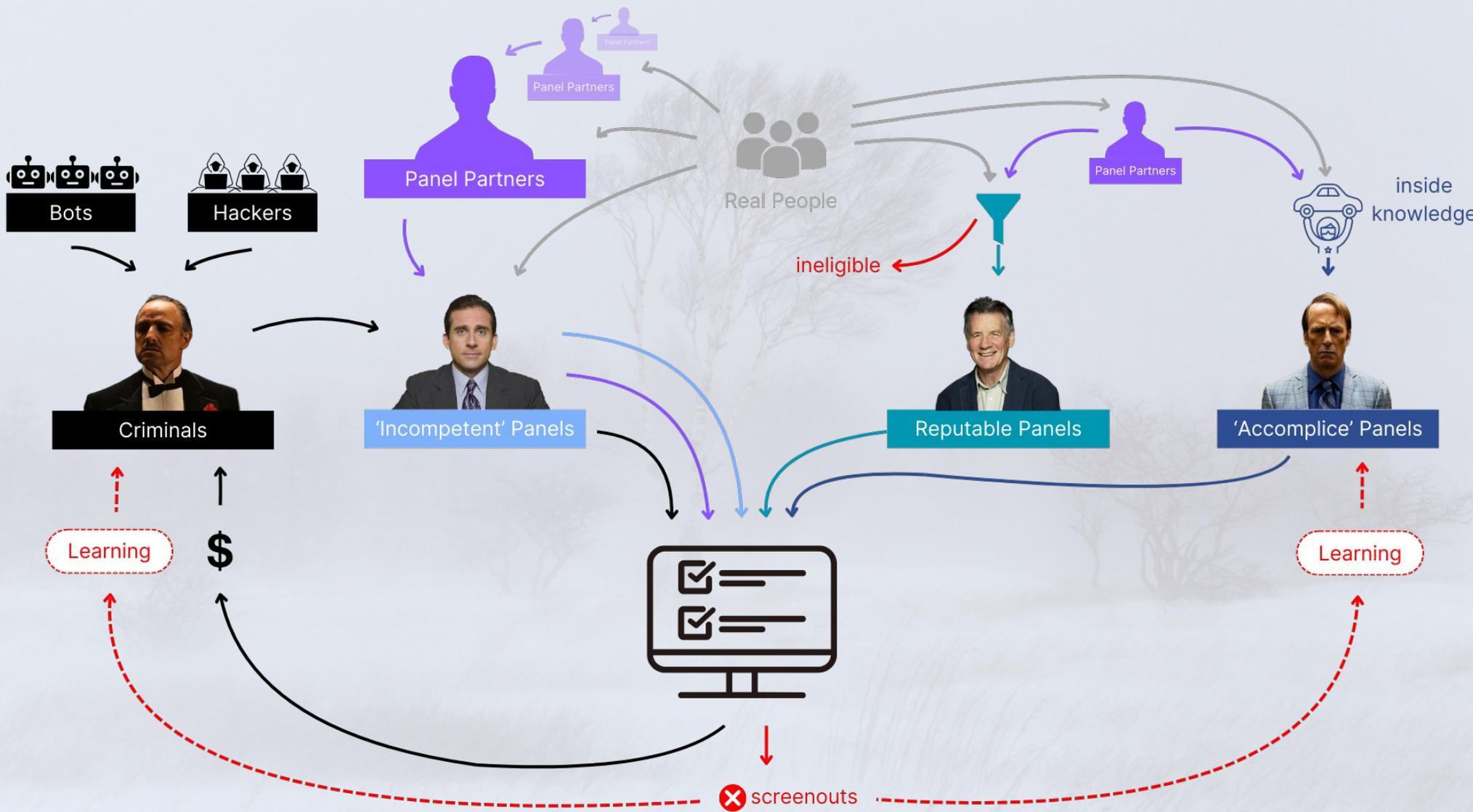
A More Likely Landscape

Screening

CAPTCHAs
only good against bots

Test questions
a team of scammers can learn

Consistency
many random answers will still pass

Cookies
useless against private mode

VPN Exclusion
cannot detect custom vpns

Contractual

Vendor Vetting
*only good against bots*

No Partners
may limit feasibility

Data Transparency
many panels won't agree

Proof of Diagnosis
technical & regulatory challenges

Follow up in-person
higher costs and some wont allow

Prevention

Respondent Analyses

Speeders

Patterned Responses

Nonsense Textual responses

Literacy and trap question

Comprehension tests

Consistency tests

Detection

Individual detection suffers from too little data

Fraud often occurs (and can be mitigated) at the group level

Identify groups
…rather than individuals.

Time Dependent Completion Rates
Rolling 30 respondent average

Method 1 – Increasing Incidence Rate

Survey Start Hour
In local 24 hour period
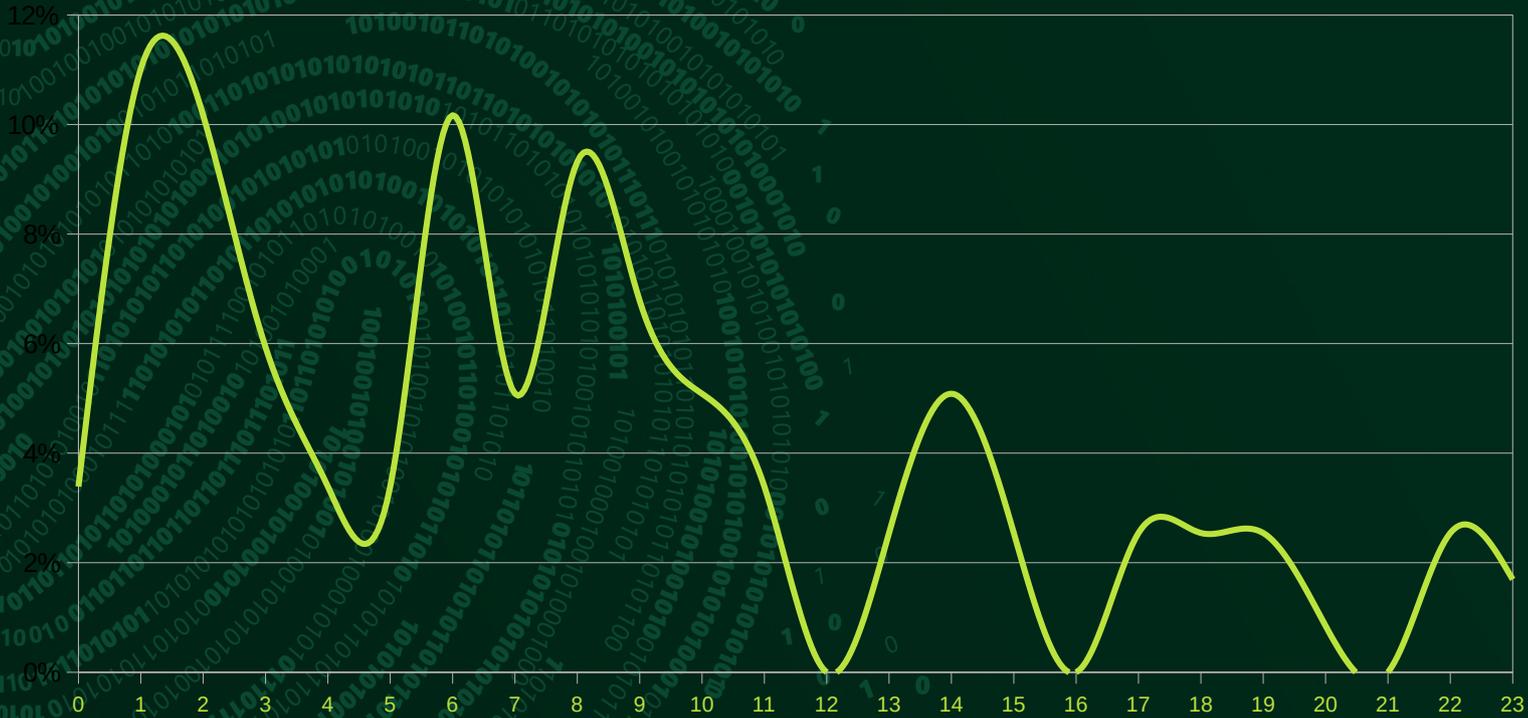
Supporting Method – Diurnal Activity

Time Spent on Page (sec) - UK vs CO

Page Duration Correlation observed vs expected

$R^2 = 0.74489931159737337$
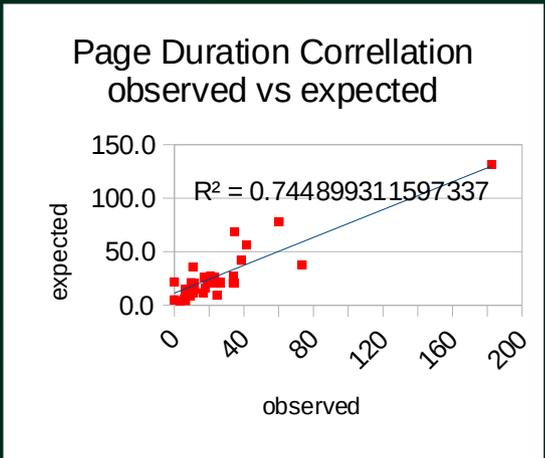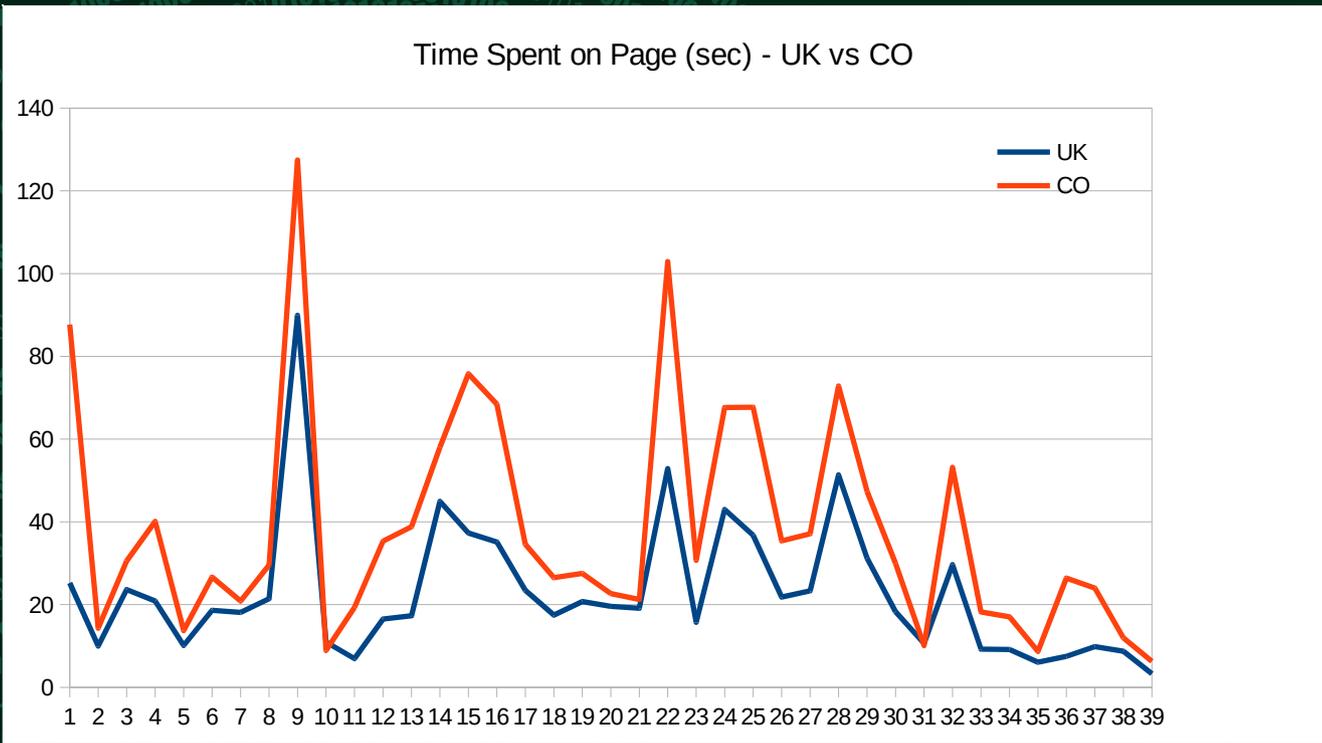
Method 2 – Reading Speed Correlation

Method 3 – Irrelevant Segment Modelling

DCE's are extremely sensitive to choice behaviour.

'Irrelevant Segmentation' reveals anomalous behaviour.

Don't expect behaviour to change by browser mode, panel or survey wave.

DCE's are the most powerful method we currently have against fraud.

Irrelevant Segment Modelling
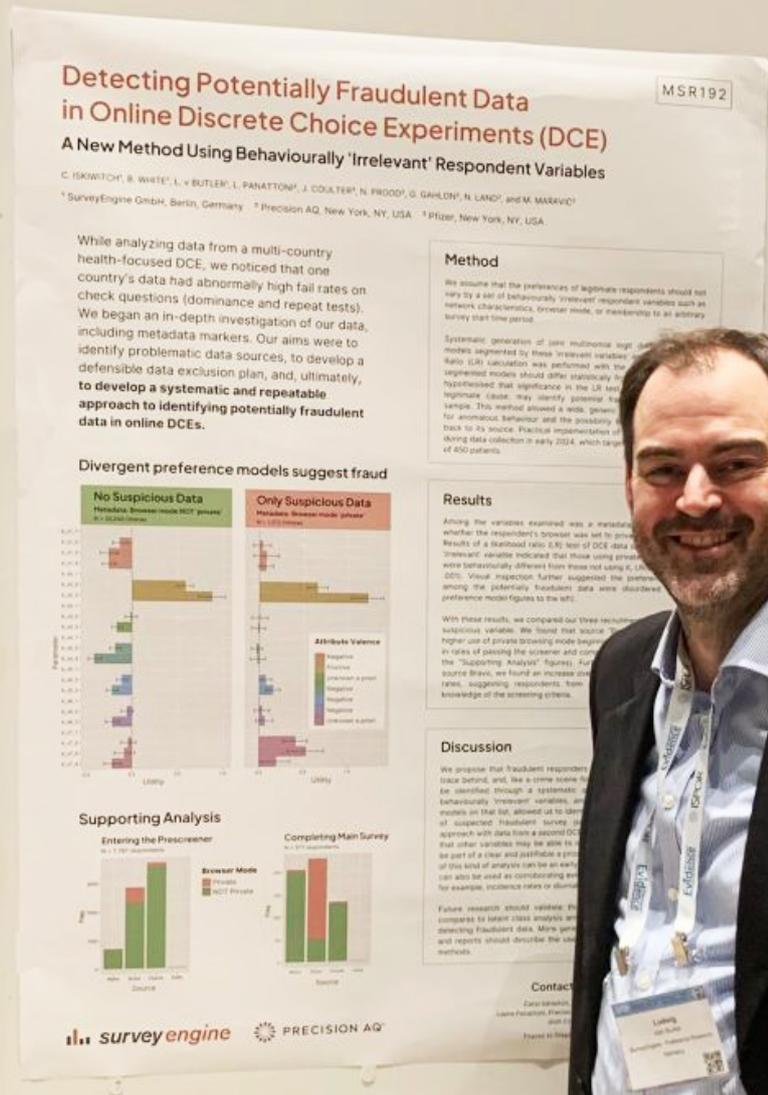
Fraud is often concentrated by panel.

Partners increase the fraud rate.

Reputable panels at risk.

Fraud occurs late in fieldwork.

IR should not increase.

Two panel are better than one.

Prepare for real-time quality reporting.

Delay payment until data is signed off.

Takeaways

- Realtime behaviour model estimation

- IR check

- Diurnal check

- Reading speed correlation

- VPN lookup

- Browser mode check

- Fingerprinting

- Domain specific literacy questions

- Trap questions

- Captcha's

Toolkit

Q&A

Thank You

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