FRAUD DYNAMICS

“Tackle the dynamics of fraud”

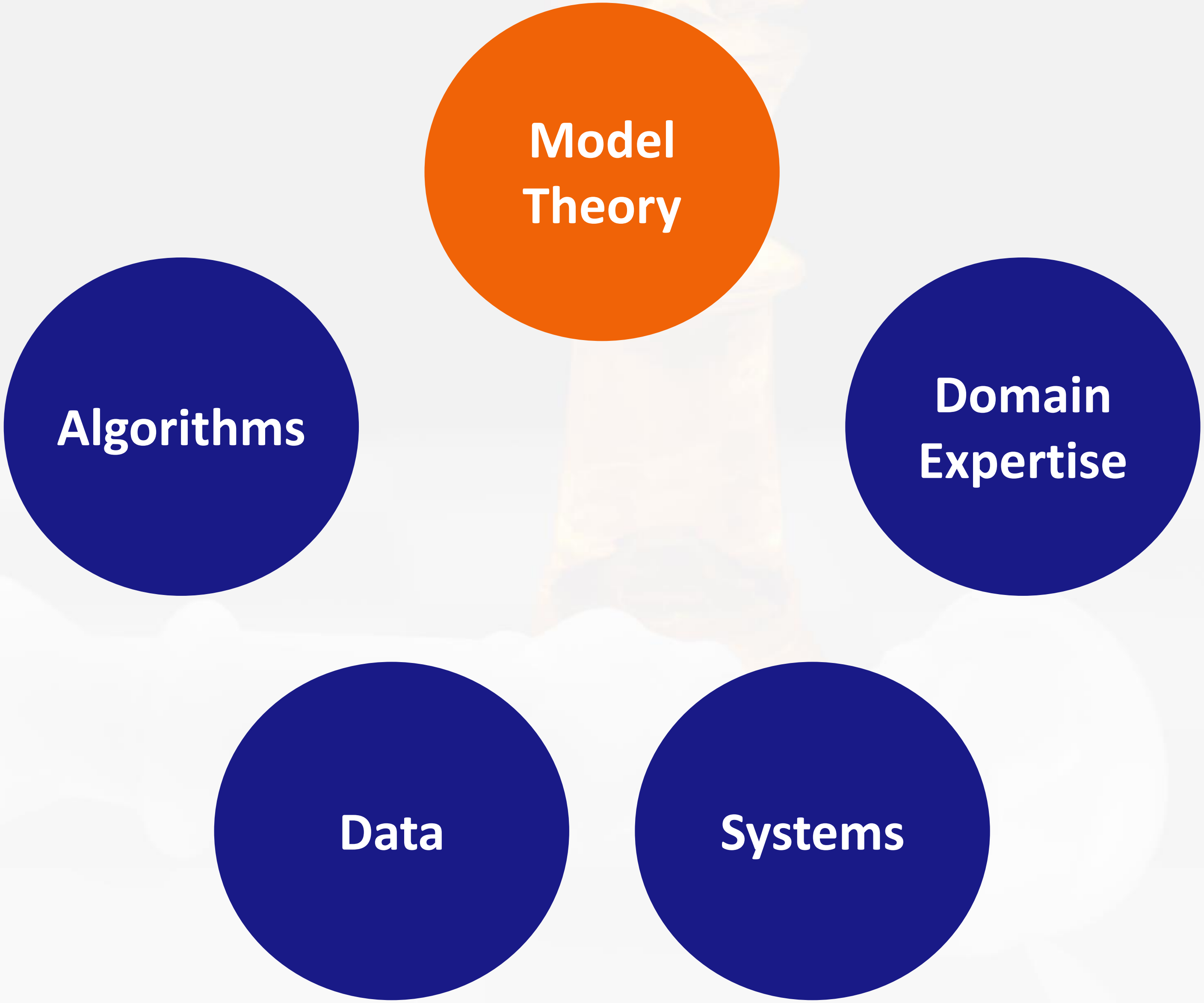
And get ahead of the game

Intro

Sjoerd Slot

- Co-founder Fraud Dynamics
- Background in Counter Fraud & AML in Financial Services
- UNECA, ASR, Capgemini, Capco
- Personal
  - Wife,
  - Two kids (boys),
  - No dog, no cat

THE USUAL SUSPECTS
6'6"
6'0"
5'6"
5'0"
4'6"
4'0"
3'6"
3'0"
PORSCHE



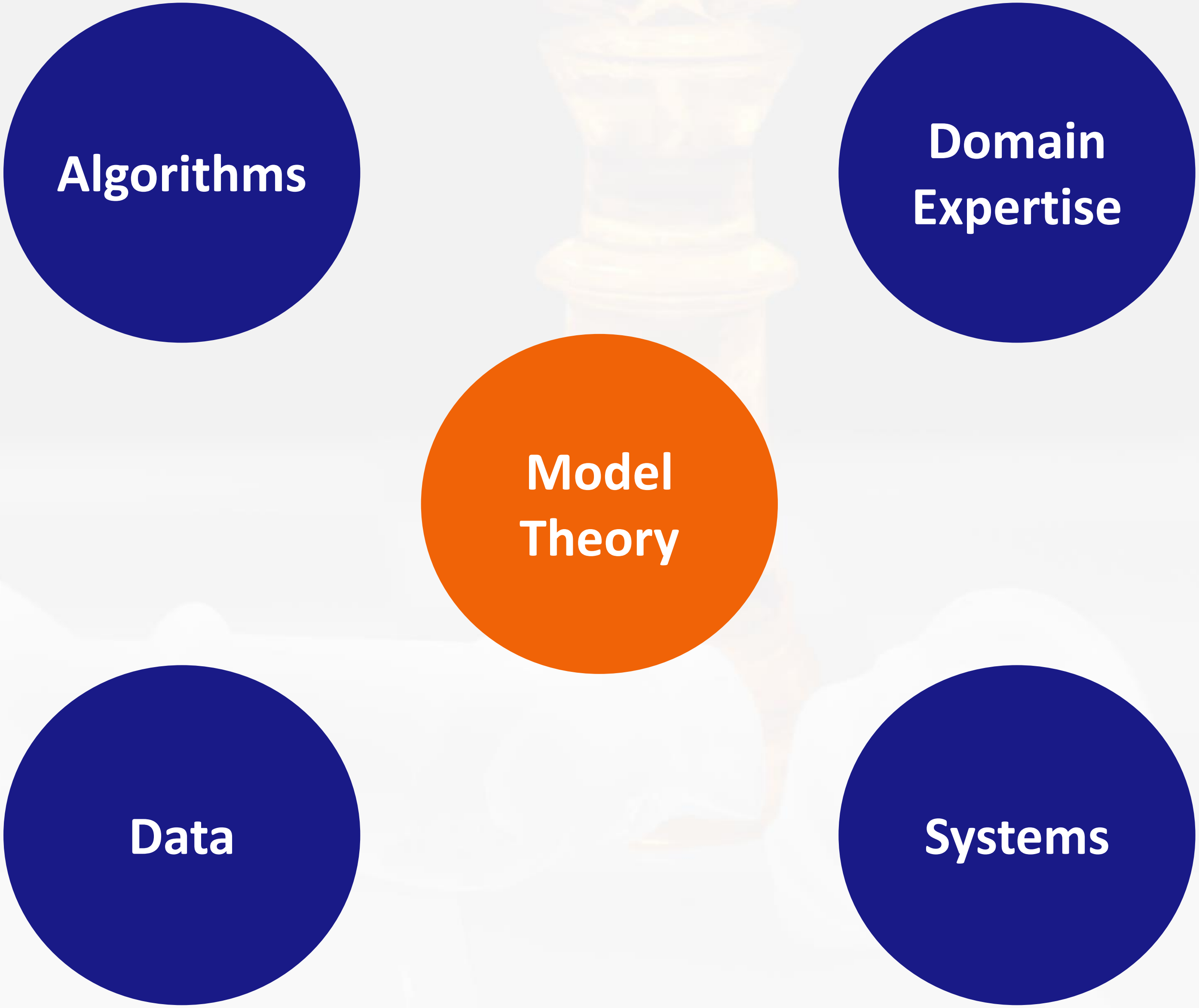
Model Theory

Algorithms

Domain Expertise

Data

Systems



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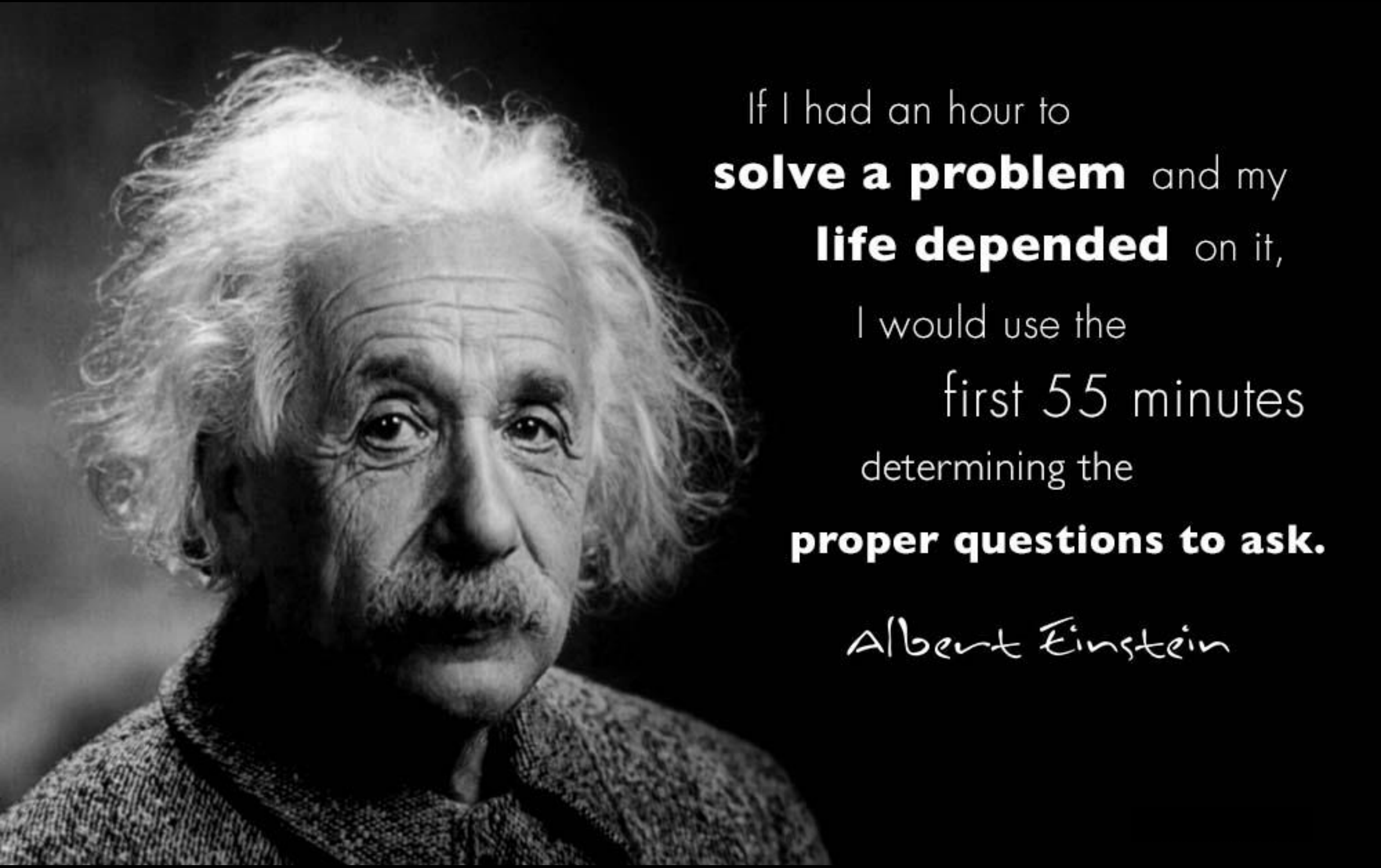
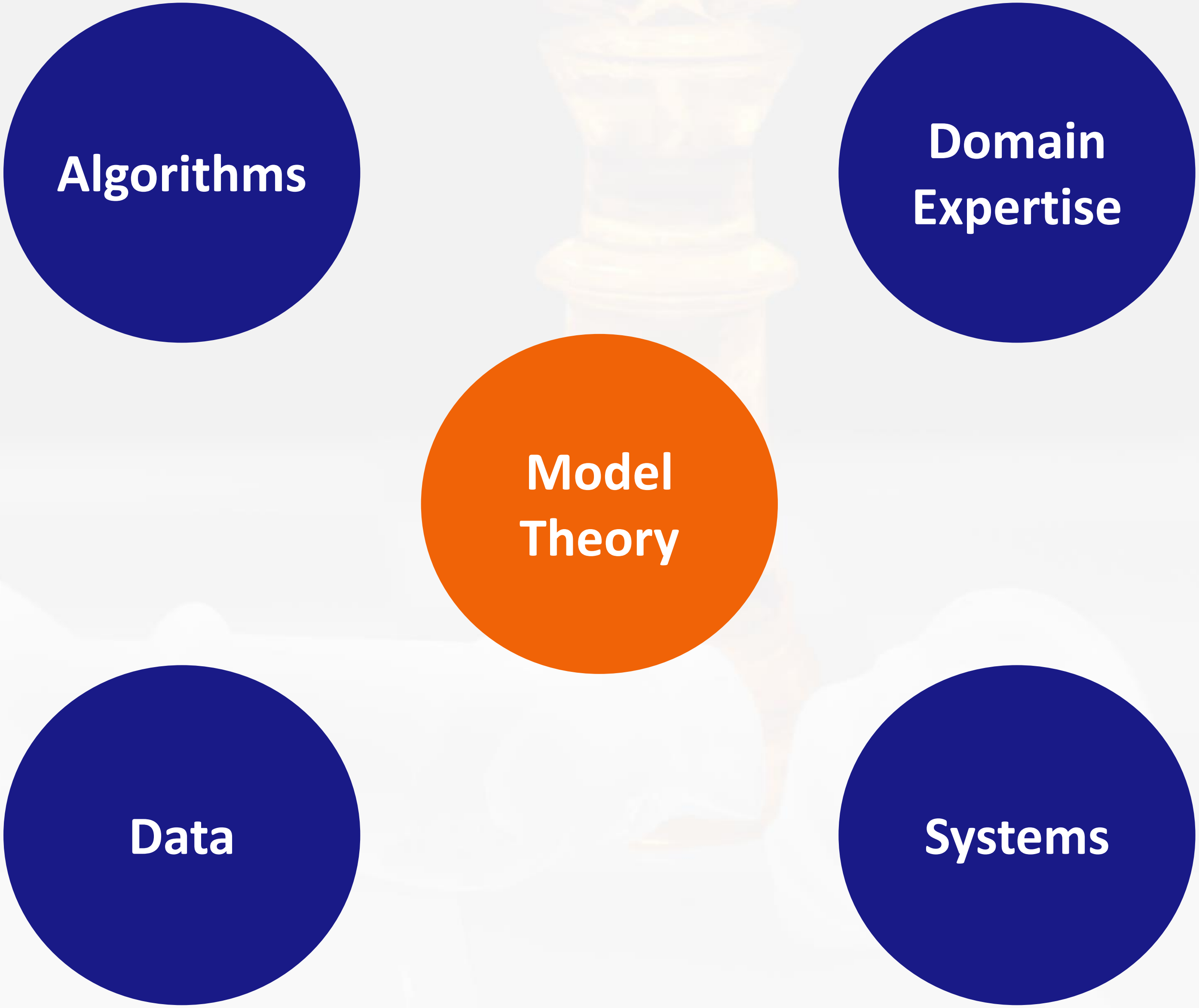


If I had an hour to **solve a problem** and my **life depended** on it, I would use the first 55 minutes determining the **proper questions to ask.**

Albert Einstein

“The ability
to ask
the right question
is more than half
the battle of
finding the answer.”

Thomas J Watson



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Fraud Dynamics, some model theories…

Security is a cat & mouse game

→ Fraudsters adapt to your measures really quick

Single indicators are easy to circumvent

→ Fraudsters test and will find out your thresholds, etc.

→ Predictability of security is the same as no security

A criminal looks like your best customer

→ If you focus on the criminals you will affect your best customers

→ Victims hardly look like the criminals

Context is everything, afterwards you always "should have seen it"

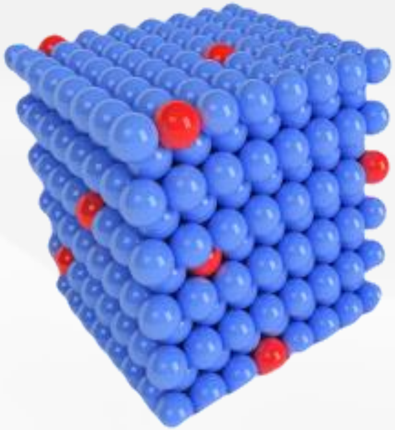
→ Because it was different than what you would expect

→ But you were not (yet) looking for it

Fraud Dynamics: how do we apply this to fraud detection?

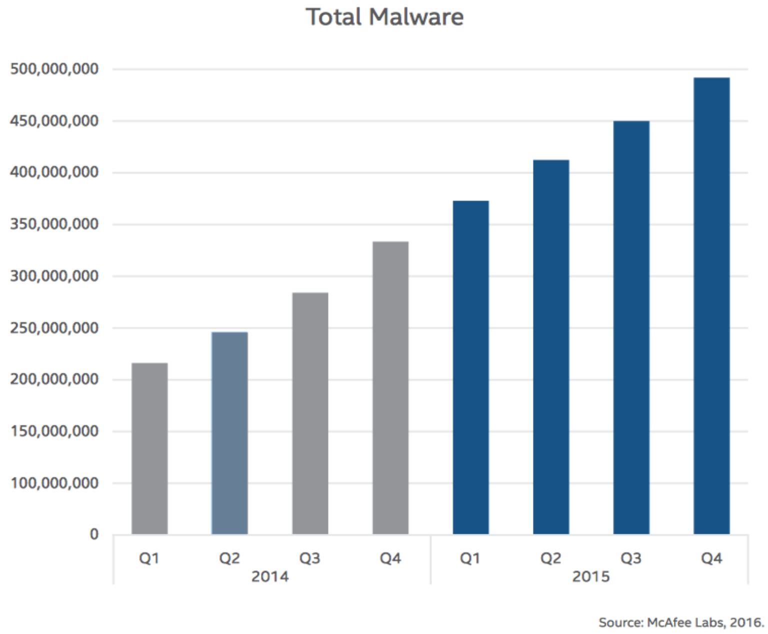
Anomaly detection

Deviation from the "usual" or "rule"



In a dynamic world

500 million malware threats…



Source: McAfee Labs, 2016.

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Anomaly detection

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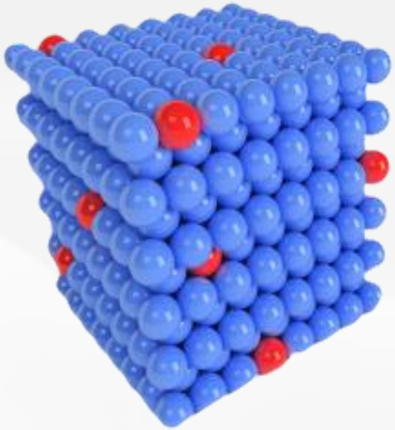


Decision model

Is this interesting enough to act?

YES / NO

Anomaly detection: key aspects

Why anomaly detection

- Fraudsters adapt to your measures
- As many modus operandi as fraudster

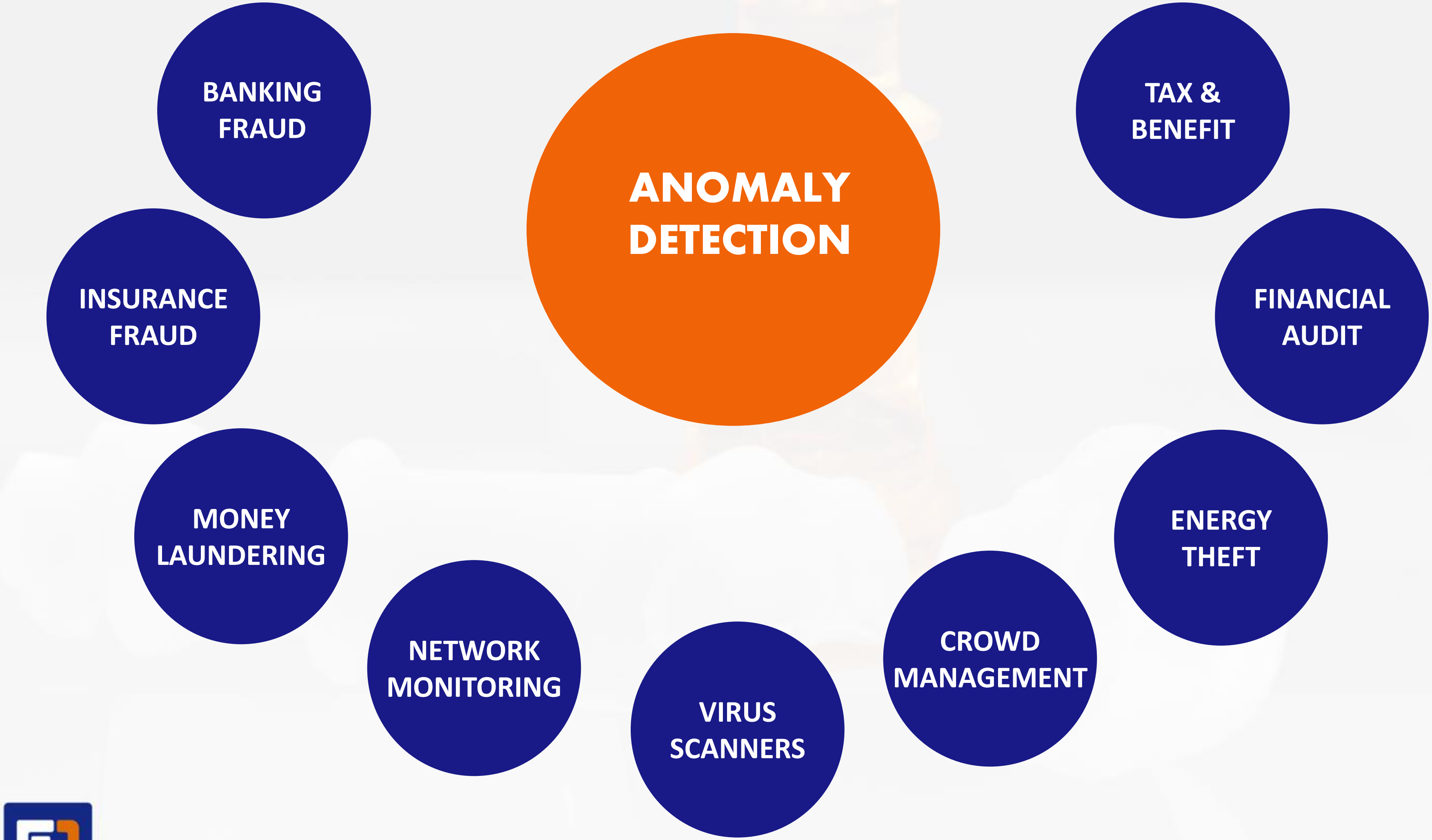
What is important for the decision model

- Effectiveness (does it actually detect fraud)
- Precision (does it not interfere with legitimate business)

What is important in follow up

- An alert is not proof, it’s a reason to investigate
- Looking at data and asking questions is the best method

Where is anomaly detection applicable?



ANOMALY DETECTION

BANKING FRAUD

INSURANCE FRAUD

MONEY LAUNDERING

NETWORK MONITORING

VIRUS SCANNERS

CROWD MANAGEMENT

ENERGY THEFT

FINANCIAL AUDIT

TAX & BENEFIT

What matters

Key lessons

- **Do not rely of fixed indicators**
  - They only detect the extreme situations
  - Once known, easy to circumvent

- **You don’t always need more data**,
  sometimes you just need better models

- **Combine anomaly detection** with fingerprinting m
  - *Do not waste valuable long-term expertise, b y*

Questions

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FRAUD DYNAMICS

Predictive modelling?

Have a model theory