Big Data in banking

UBS 19th Annual Financial Services Conference:
The technology frontier

FNB
First National Bank

how can we help you?

Content

The evolution of Retail and Commercial Banking

Big data enablers

Modern Credit, Marketing, Financial Crime, CVM and Operations

Key challenges and what's next

Content

The evolution of Retail and Commercial Banking
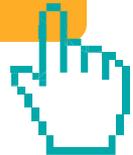
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The evolution of Retail/Commercial Banking

Branch → Online
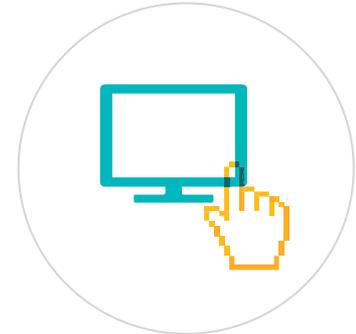
Judgmental → Automated Scoring

Product → Customer
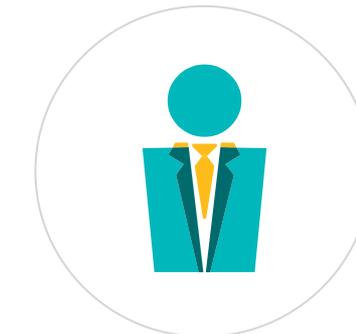
Evolution from branch to e-channels

Number of interactions
Millions

Online   Mobile   App   ATM   POS   Branch
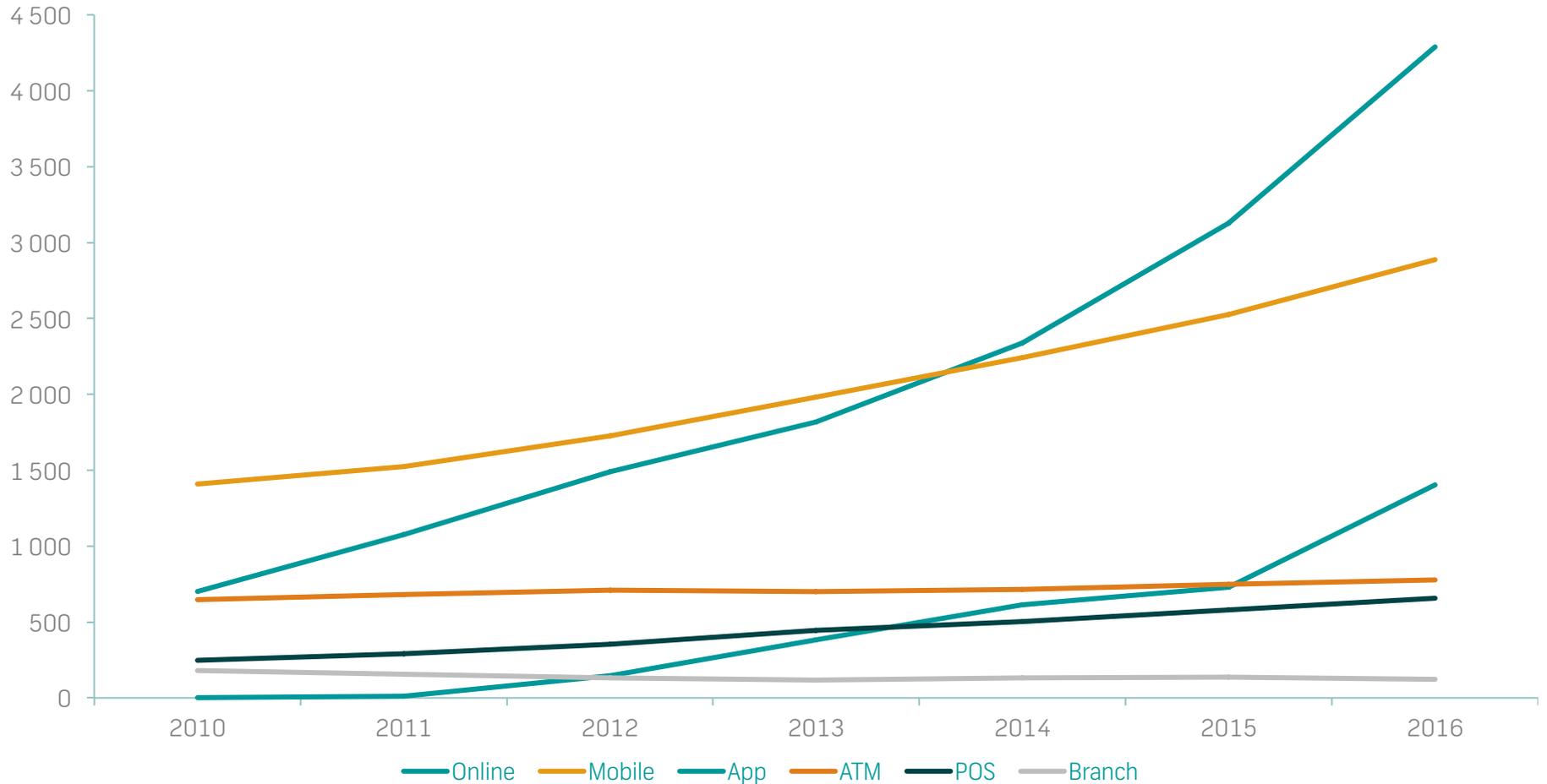
Evolution – from judgemental to automated credit

Gini for 'banked' customers, non-banked much lower

Judgemental decisions   Accuracy
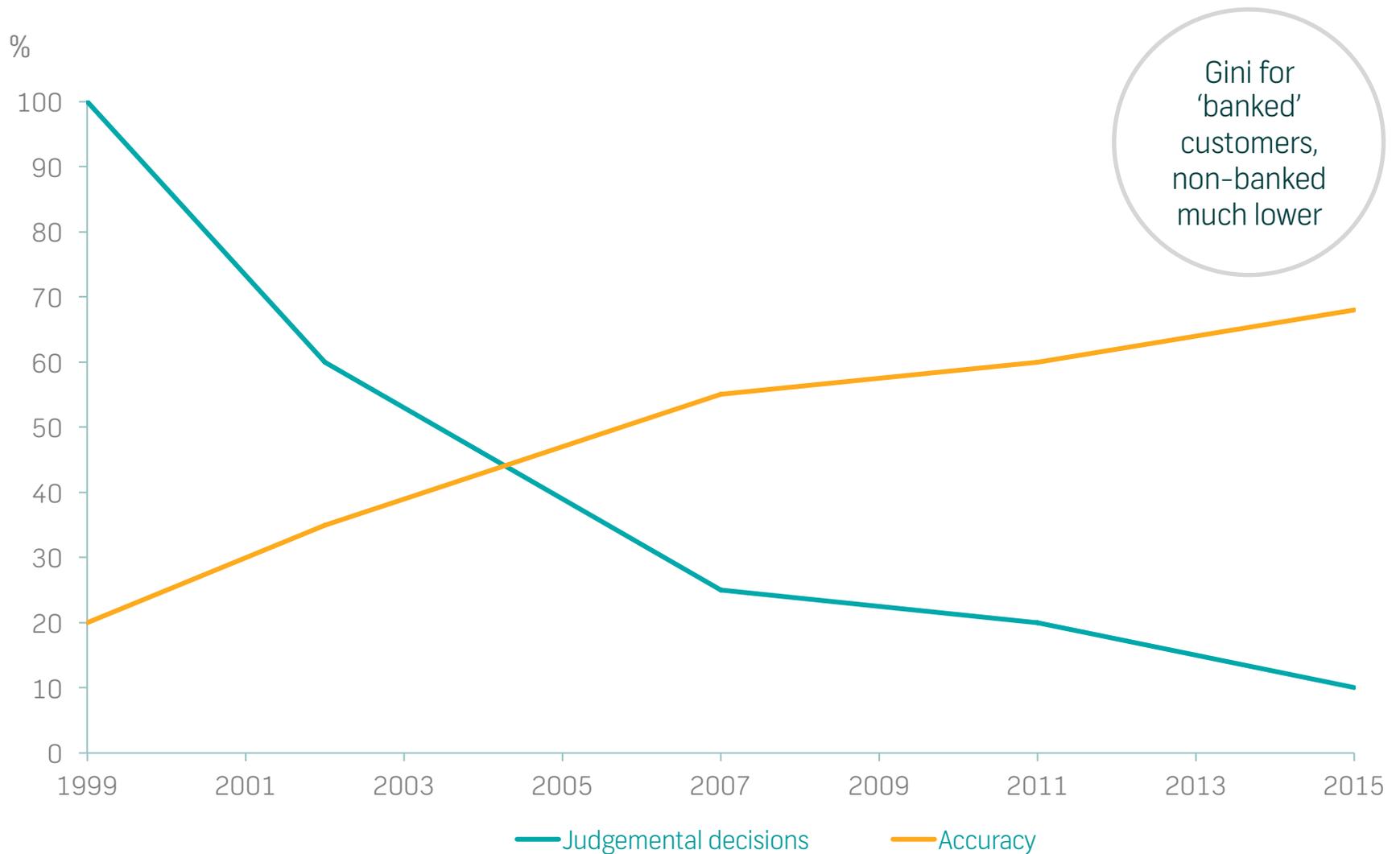
Evolution from product centric to customer centric view

Customers on CIS* (%)

- Individual: 99.5
- Juristic: 95
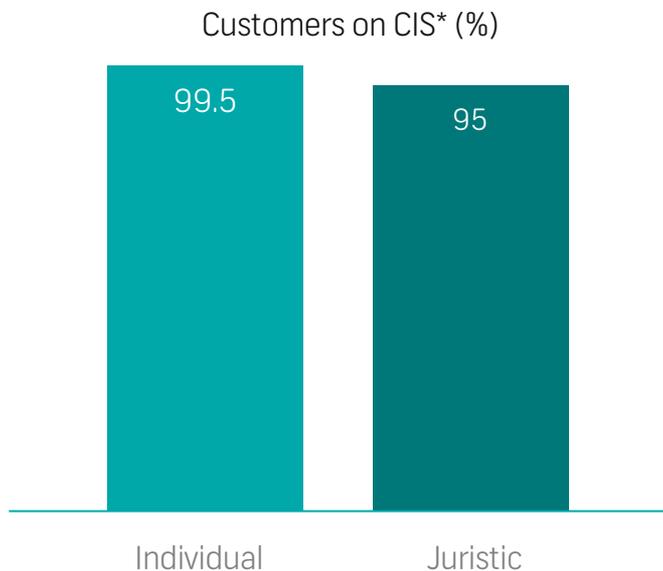
Customer information management has been centralised outside of product systems

Number of customer documents on Documentum** (Million)

- 2012: 200
- 2013: 220
- 2014: 260
- 2015: 300
- 2016: 375
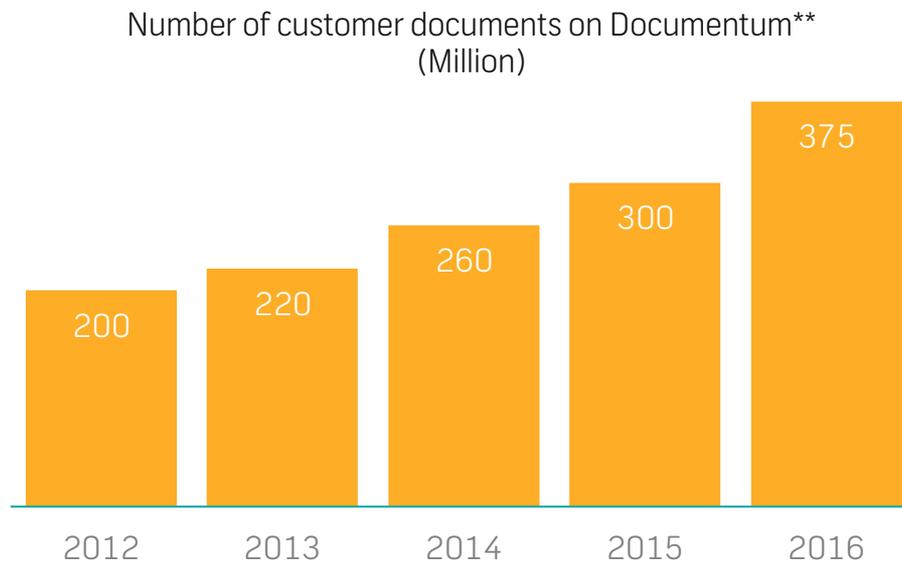
Customer and product records have been centralised outside of product systems

*   Customer Information System
** Central electronic document repository

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Comprehensive single view of customer

Enterprise data warehouse/lake

Big Data

Operational decision making

Analytical capability

Comprehensive single view of customer

Enterprise Data Warehouse/Lake

More sophisticated analytical capabilities required to extract value

EXPERT SYSTEMS

SIMPLE STATISTICAL MODELS

MORE ADVANCED METHODS

Decision Trees

Logistic Regressions

Neural Networks

Random Forest
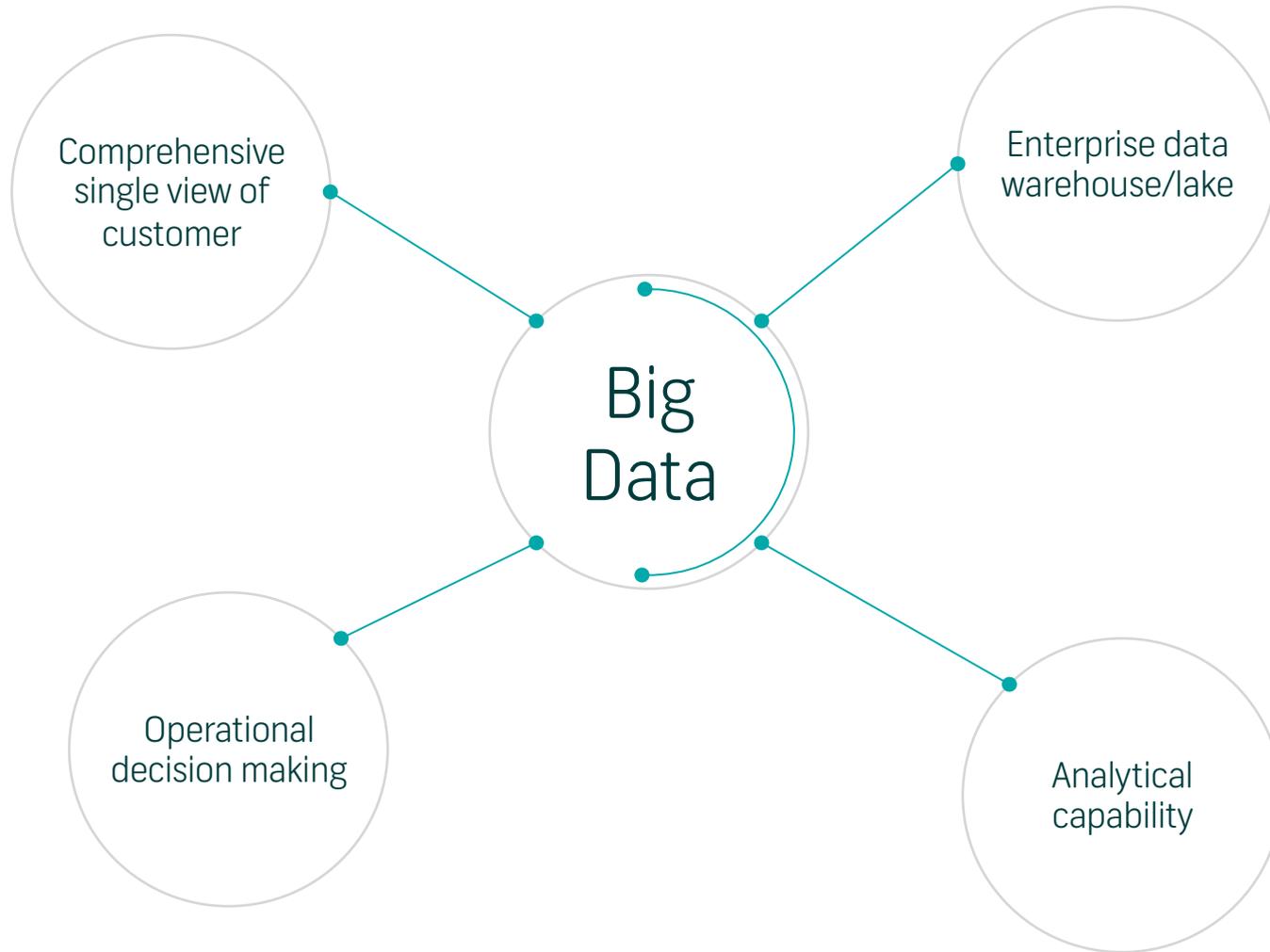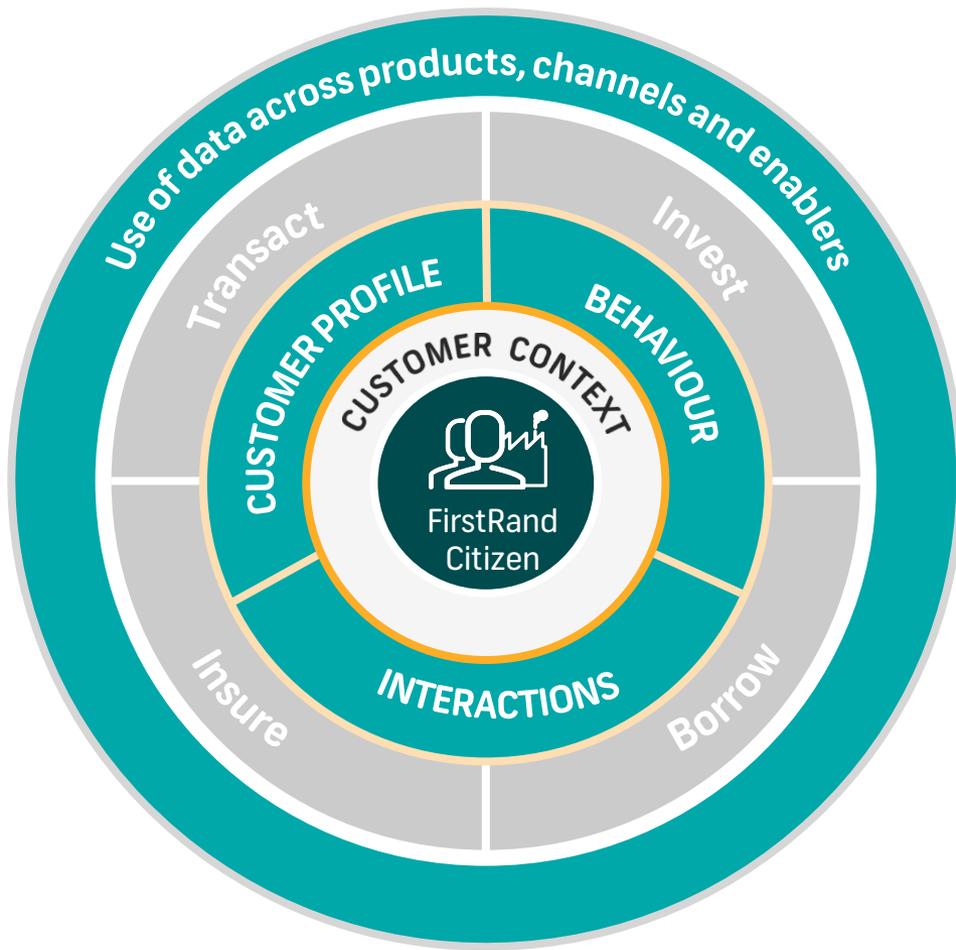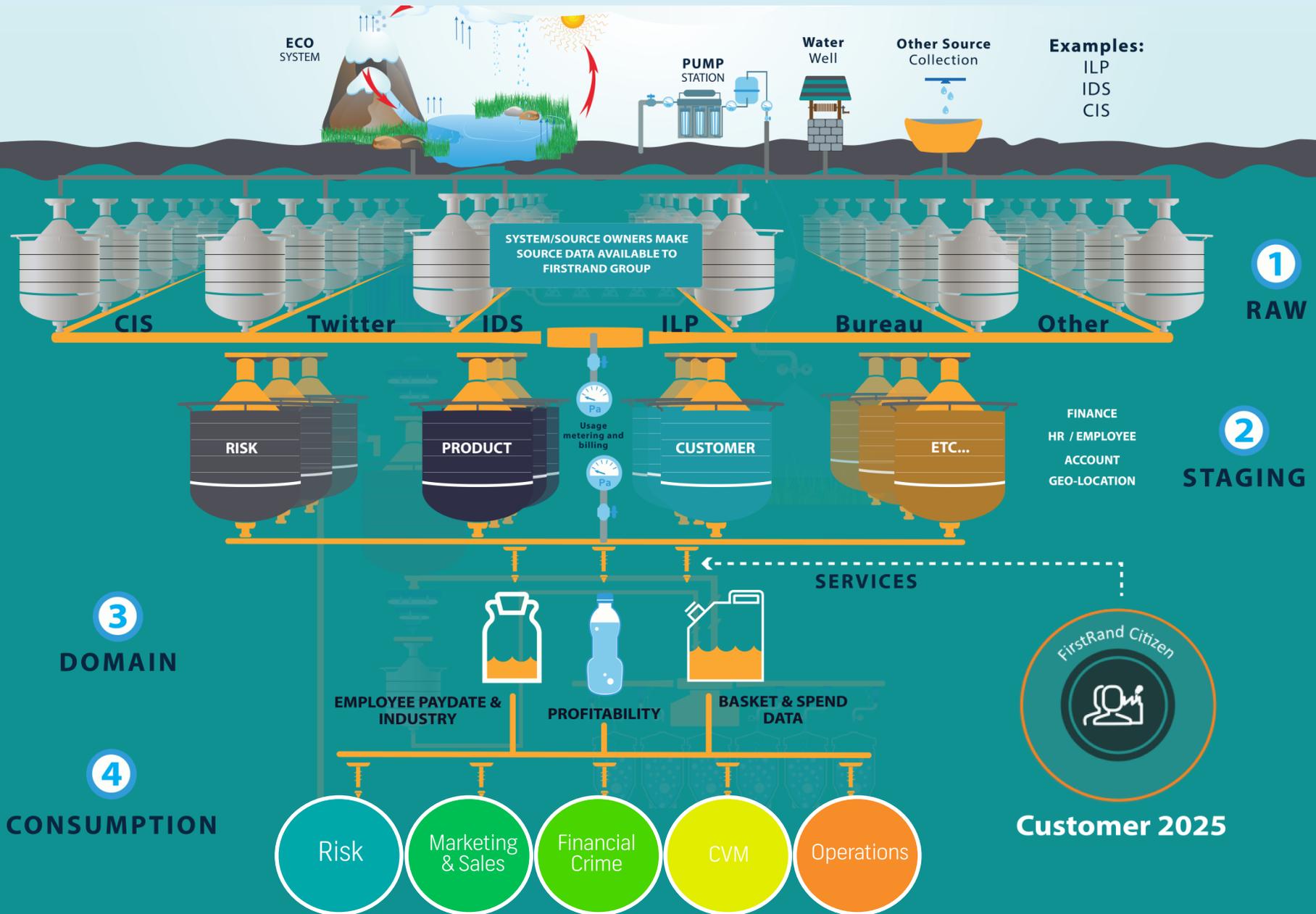
Operationalising decisions

"Analytics without decisions is meaningless"
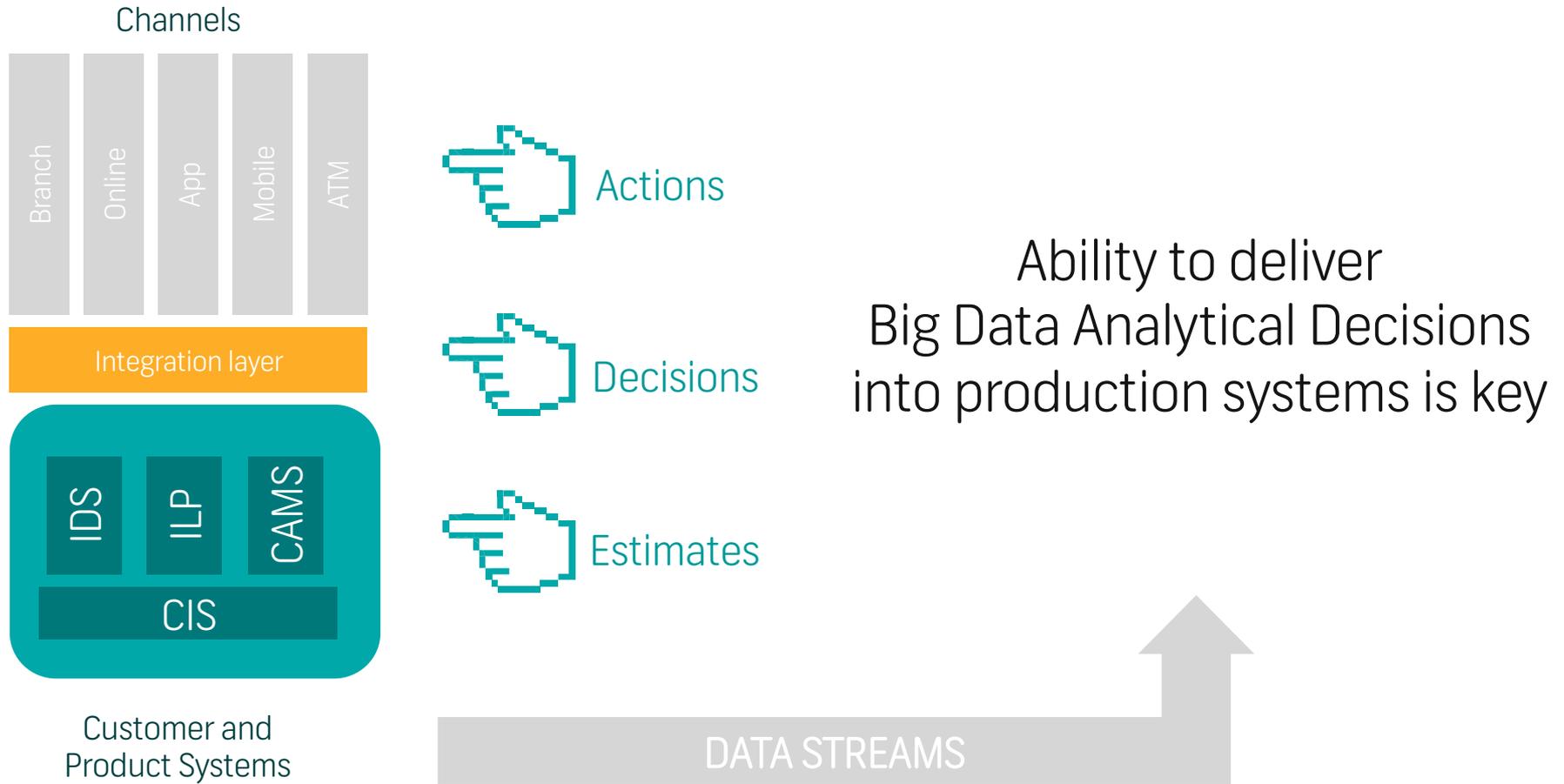
Channels

Branch · Online · App · Mobile · ATM

Integration layer

IDS · ILP · CAMS

CIS

Customer and
Product Systems

Actions

Decisions

Estimates

Ability to deliver
Big Data Analytical Decisions
into production systems is key

DATA STREAMS

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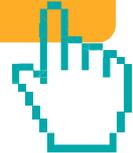
Big Data use cases

Risk

Marketing and Sales

Financial crime

CVM

Operations

Big Data use cases – Risk

Risk

- Enhanced Credit Models
    - Integrated view across products, channels, enablers
    - Sophisticated behavioural analysis
    - Augmented/Derived characteristics
- Risk appetite – optimised at every level
- ICAAP models
- Regulatory Risk/Compliance & Market Conduct
- Insurance

Big Data use cases – Marketing and Sales
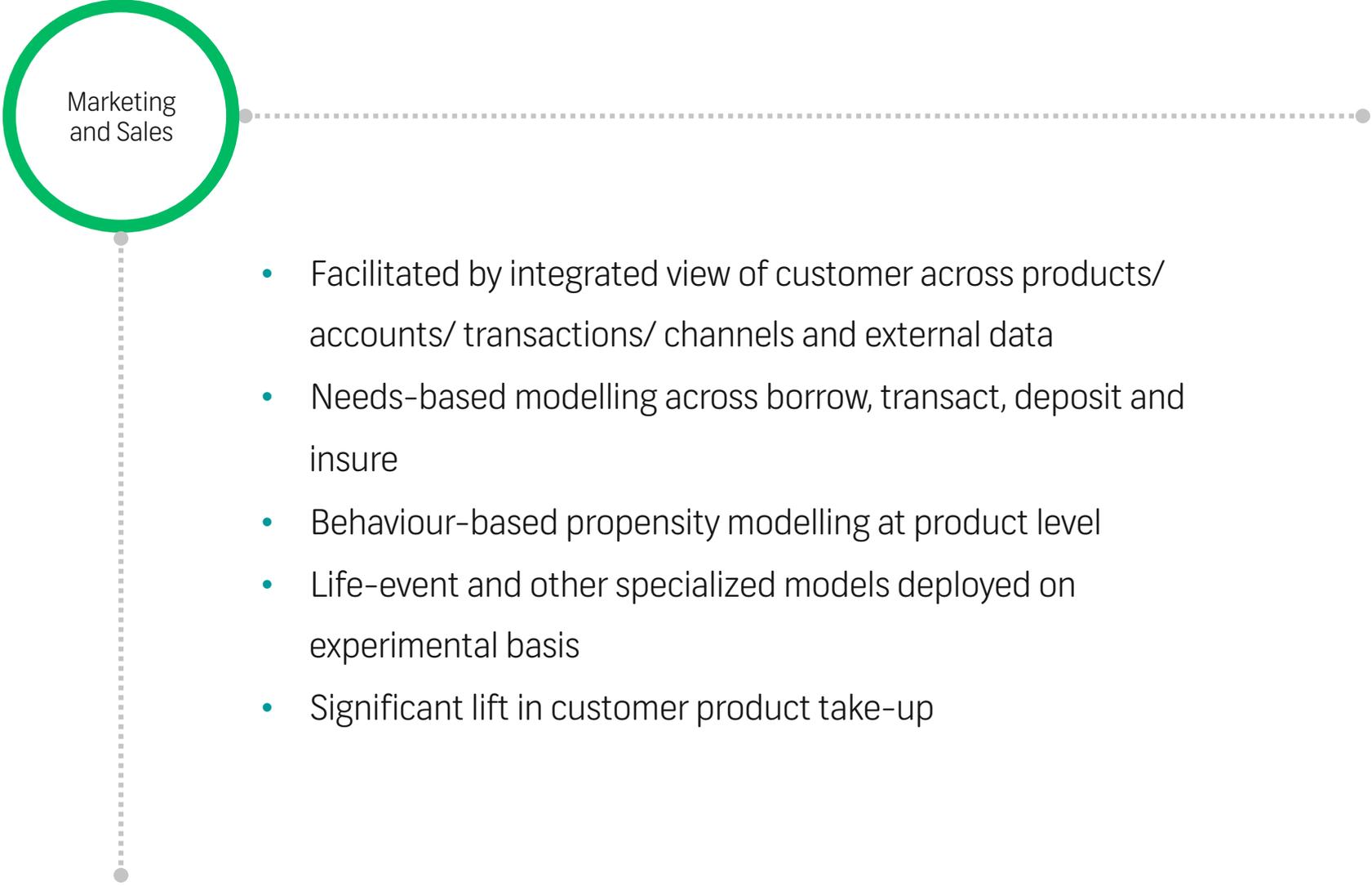
Marketing and Sales

- Facilitated by integrated view of customer across products/ accounts/ transactions/ channels and external data
- Needs-based modelling across borrow, transact, deposit and insure
- Behaviour-based propensity modelling at product level
- Life-event and other specialized models deployed on experimental basis
- Significant lift in customer product take-up

Digital 'Big-3' platform instrumental in sales growth

Chart showing sales growth from FY13 to FY16 across categories: Borrow, Transact, Investment, Insurance. Y-axis ranges from 0 to 2 500 000.

Big Data use cases – Financial crime
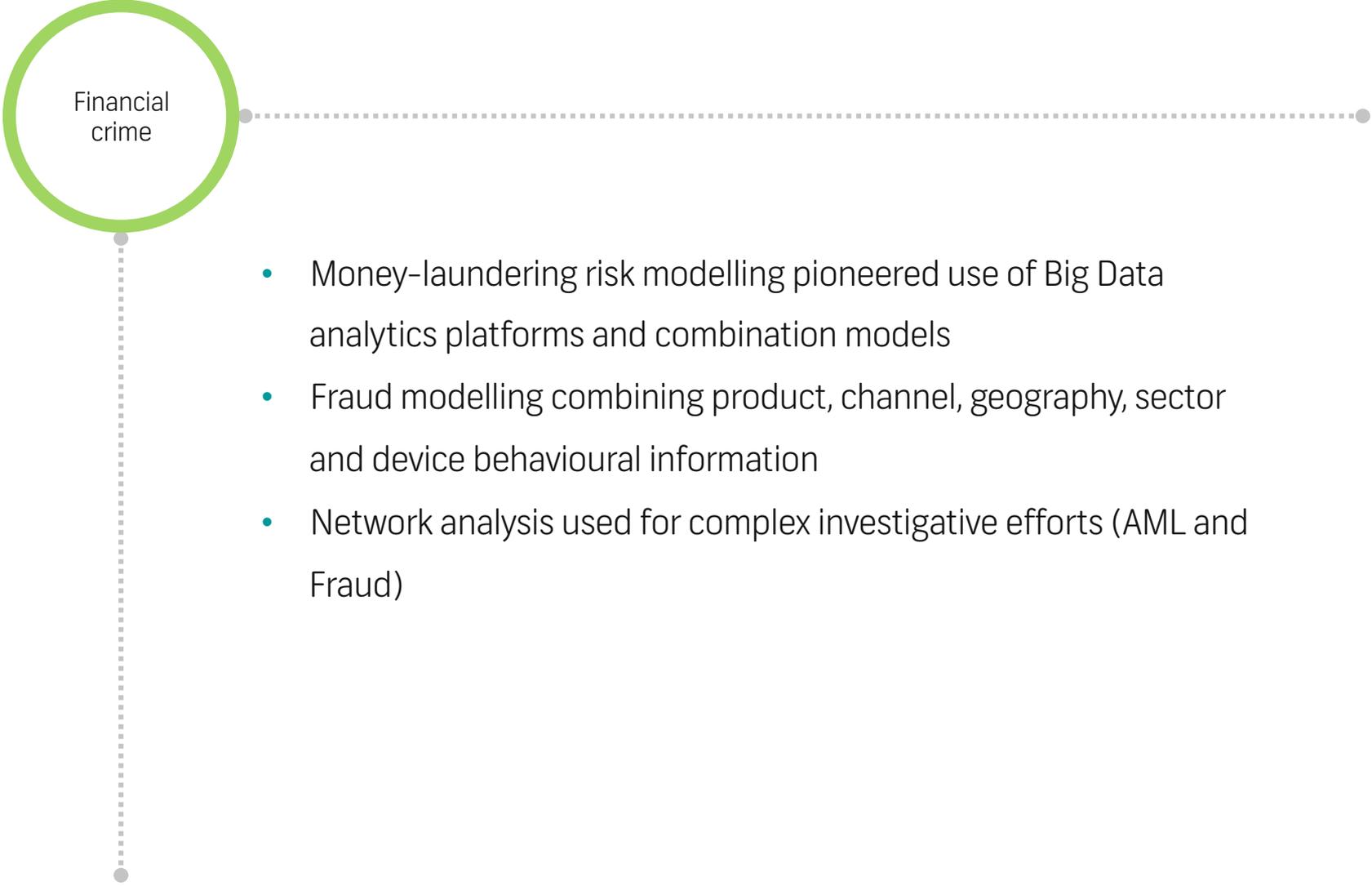
Financial crime

- Money–laundering risk modelling pioneered use of Big Data analytics platforms and combination models

- Fraud modelling combining product, channel, geography, sector and device behavioural information

- Network analysis used for complex investigative efforts (AML and Fraud)

Big Data use cases – CVM
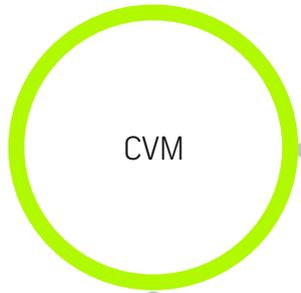
CVM

- Customer profitability modelling allows customer-level decisioning and strategy guidance across levels
- Retention modelling retains good customers
- Pricing optimisation across multiple dimensions
- Rewards designed to influence customer behaviour

CVM – Deep understanding of profitability

Million

Monthly profit per risk grade

Low risk ← → Risk grade ← → High risk

- NIACC
- Cost of capital
- Tax
- Opex
- TTC imp
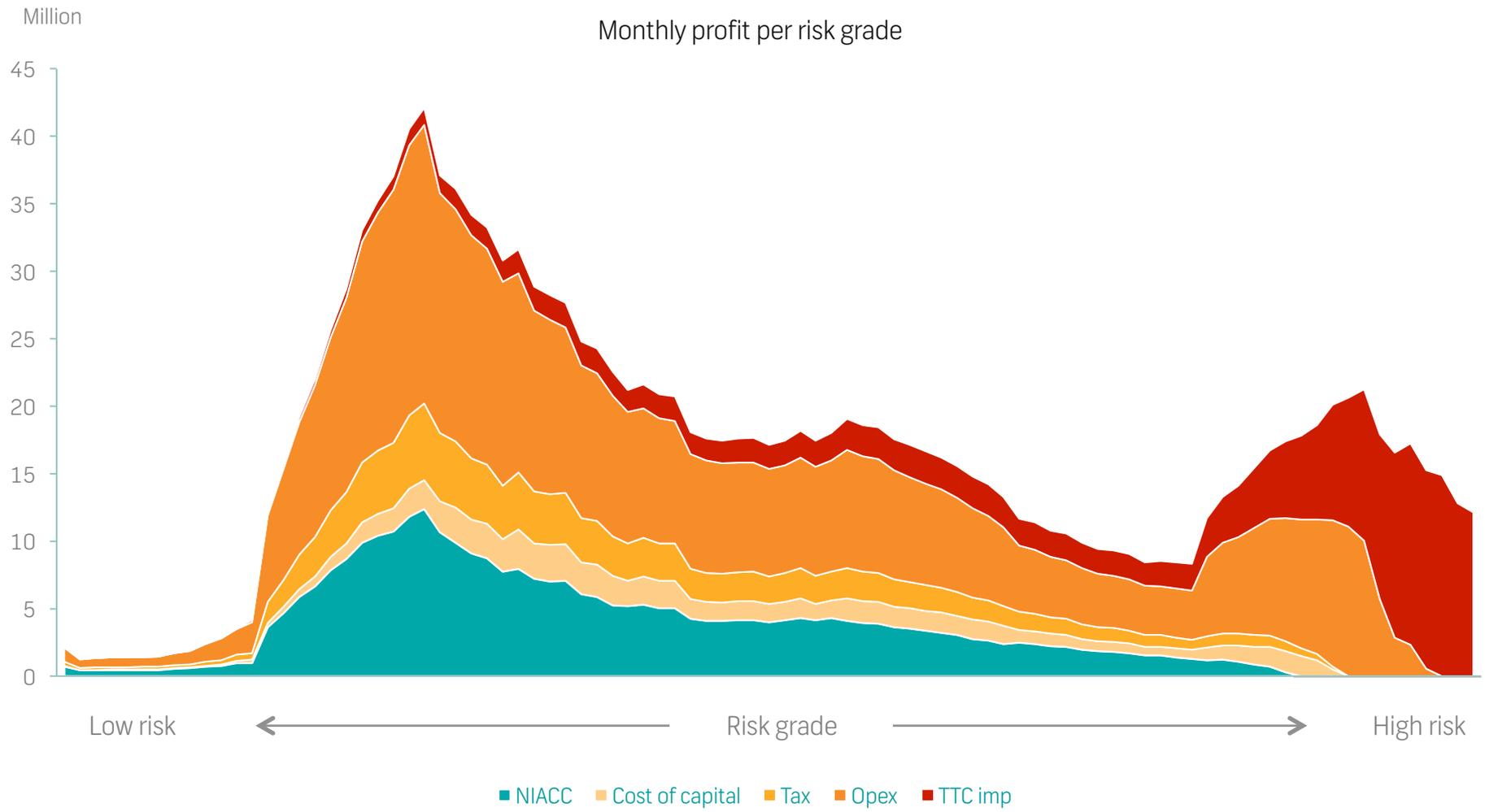
Big Data use cases – Operations
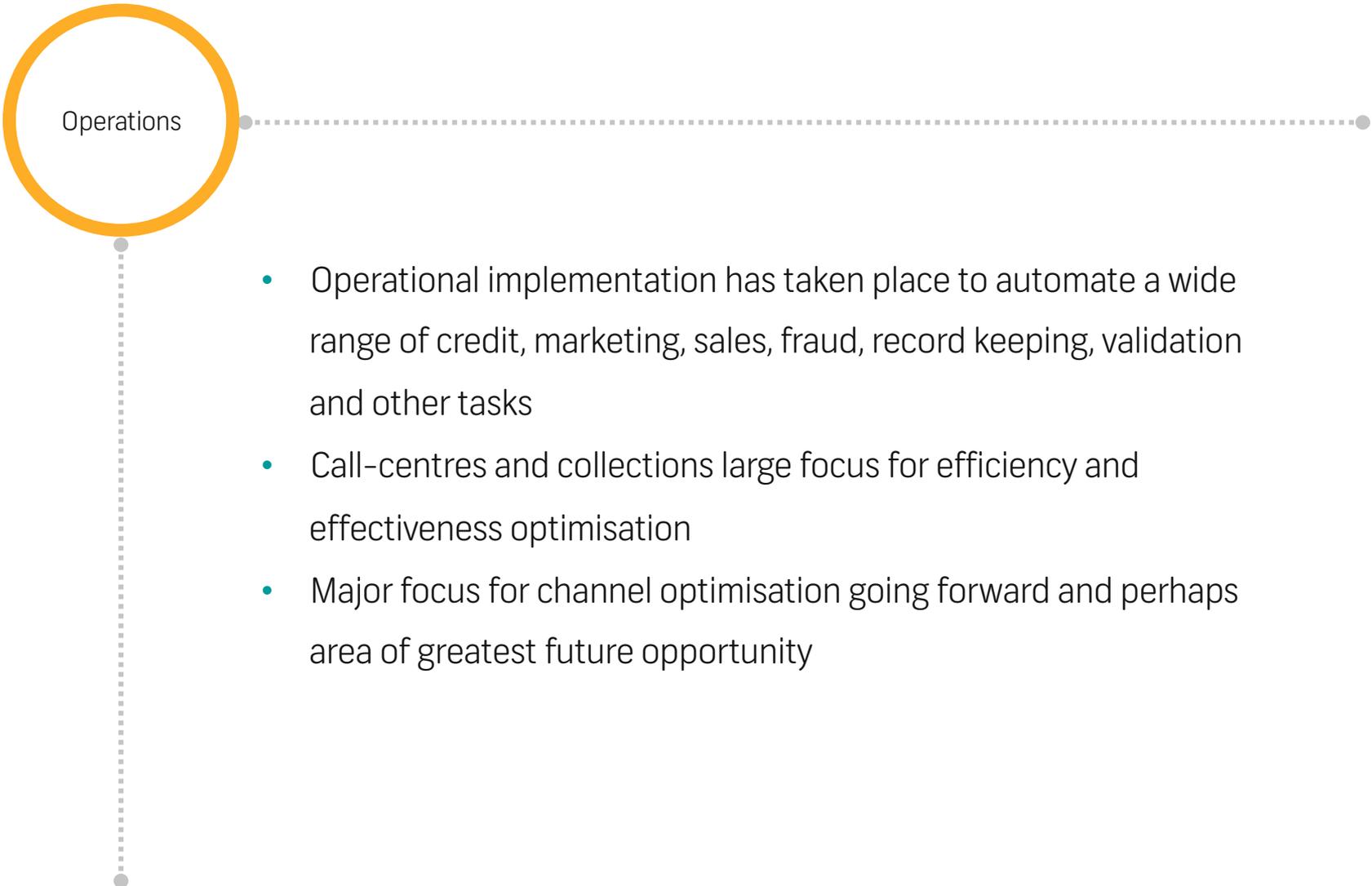
Operations

- Operational implementation has taken place to automate a wide range of credit, marketing, sales, fraud, record keeping, validation and other tasks

- Call-centres and collections large focus for efficiency and effectiveness optimisation

- Major focus for channel optimisation going forward and perhaps area of greatest future opportunity

Modern operations – Contactability is one of many key drivers of efficiency
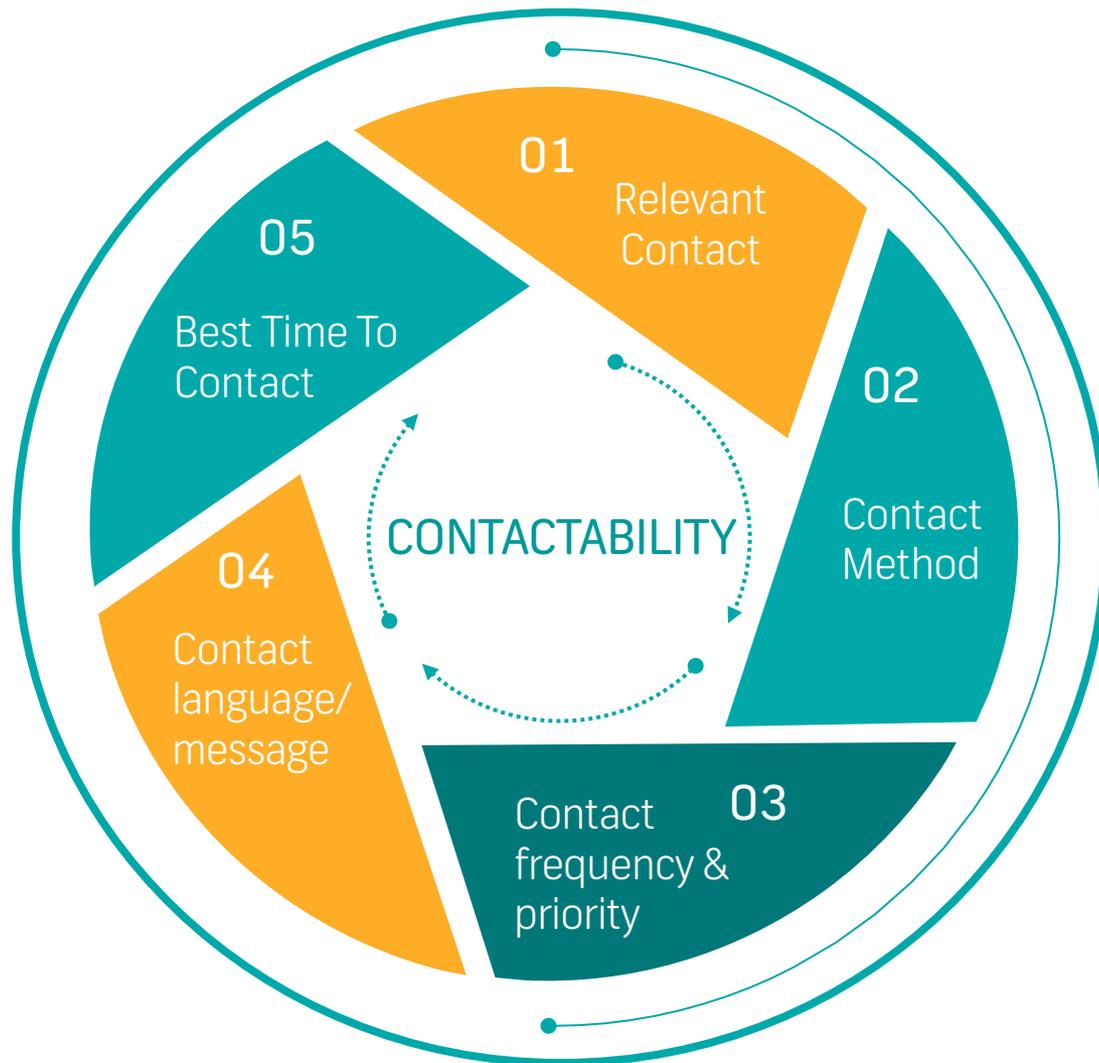
Aim is to contact the right customer using the right method at the right time with the right message

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The modern FI requires new infrastructure and skills

FROM

TO

What's next

> Intelligent agents - robo-advisors, service and sales agents

> GAAF (Google, Apple, Amazon & Facebook) & others entering financial services

> Integrated Financial services (Lend, Deposit/Invest, Transact, Insure, Telco, ...)

Thank you

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