Adoption of Data Science and Analytics by CTOS Credit Rating Agency

Digital Data Decisioning
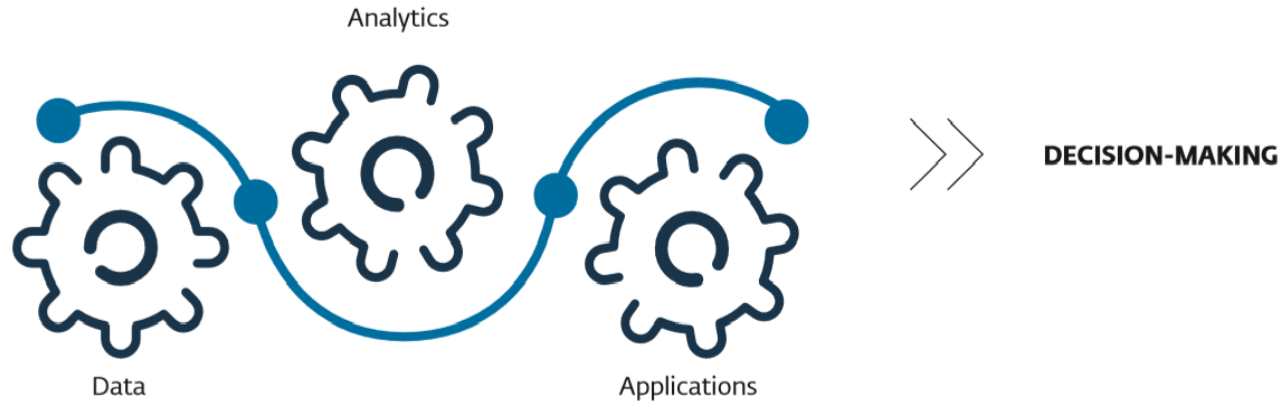
Sadish Ray
GM Data & Decision Analytics

Driving Digital Data Decisioning

- ➢ **Data = Is an Asset**
- ➢ **Analytics = Is a tool that bridge the gap between data and insight**
- ➢ **Decision Making = Data Science of endless possibilities**

Data Integrity and Data Enrichment to define Digital Customer Insight

Discover
- Data discovery
- Data profiling
- Data inventories
- Process inventories
- CRUD analysis
- Capabilities assessment

Measure and Monitor
- Proactive monitoring
- Operational dashboards
  - Reactive operational DQ audits
  - Dashboard monitoring/audits
- Data lineage analysis
- Program performance
- Business value/ROI
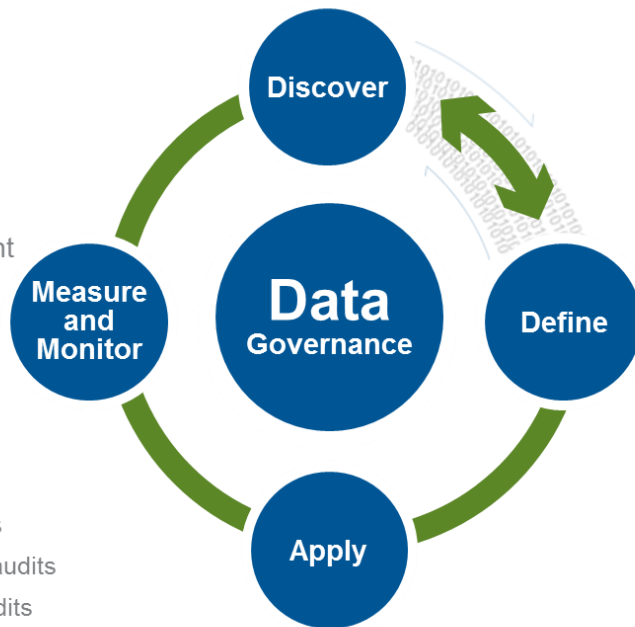
Define
- Business glossary creation
- Data classifications
- Data relationships
- Reference data
- Business rules
- Data governance policies
- Other dependent policies
- Key Performance Indicators

Apply
- Automated rules
- Manual rules
- End to end workflows
- Business/IT collaboration

Discover

Data Governance

Measure and Monitor

Define

Apply

Data Assets monetization to achieve Digital Customer Insight

IDENTIFY ANY
SECURTIY RISK TO
ENVIRONMENT

DEFINE THE PARAMETERS
STRUCUTURE DATA AND
UNSTRUCUTURE DATA

UPDATE INACCURATE
OR MISSING DATA TO
ENSURE ACCURATE OF
CUSTOMER INSIGHT

IDENTIFY DATA ANALYTICS
DESIGN AND STRATEGY

ctos
Customer
Insight

Data usage

Data acquisition
and discovery

Data
monetization

(Big) data
analytics

Data minimization
and retention

Data management
and quality

Data exchange

Data storage
and protection

MyStats
2018

Objective for Credit Rating Agency is to help drive financial inclusion using Digital Data Decisioning
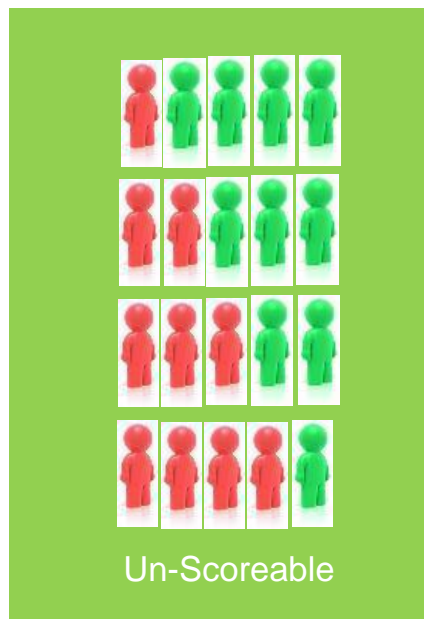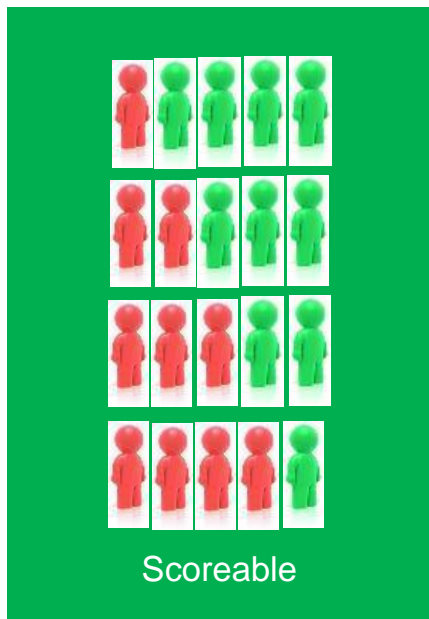

CTOS Consumer Credit Score and Credit Report

CTOS SME Credit Score and Credit Report

CTOS Income Estimation

Scoreable

Un-Scoreable

650

CTOS Alternative Consumer Score – (Digital Data - Social/Mobile/Email/ Psychometric)

450

CTOS Alternative MSME Score (Digital Data - Social/Mobile/Email/ Psychometric)

Malaysia Financial Inclusion

Use Case 1 – Digital Data Decision with Credit Scoreing

ctos® Score

744	Excellent	850
718	Very Good	743
697	Good	717
651	Fair	696
529	Low	650
300	Poor	528
	No Score	

POOR 300   800   850 GOOD

1. A credit score is a **3 digit** number calculated from your data-rich credit report.
2. It is one factor used by financial institution, telco, insurance and SME to determine consumer credit worthiness with right product offering in relation of risk
3. The score is used for Credit Digital Data Decision basis on risk factors.
4. What is a good credit score? The higher the score, the lower the risk.

Apa itu CTOS Score?   **ctos®**

MyStats 2018

CTOS Score Predictive Power

85%

GINI Coefficient: A summary statistic of the trade-off curve (also known as a Lorenz curve) and a
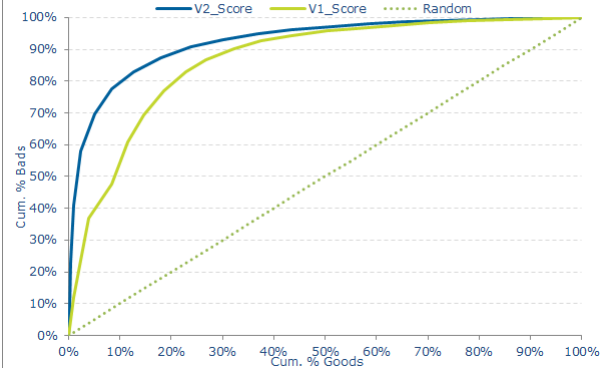
70.3

KS or Kolmogorov-Smirnoff: Maximum difference between the cumulative distribution
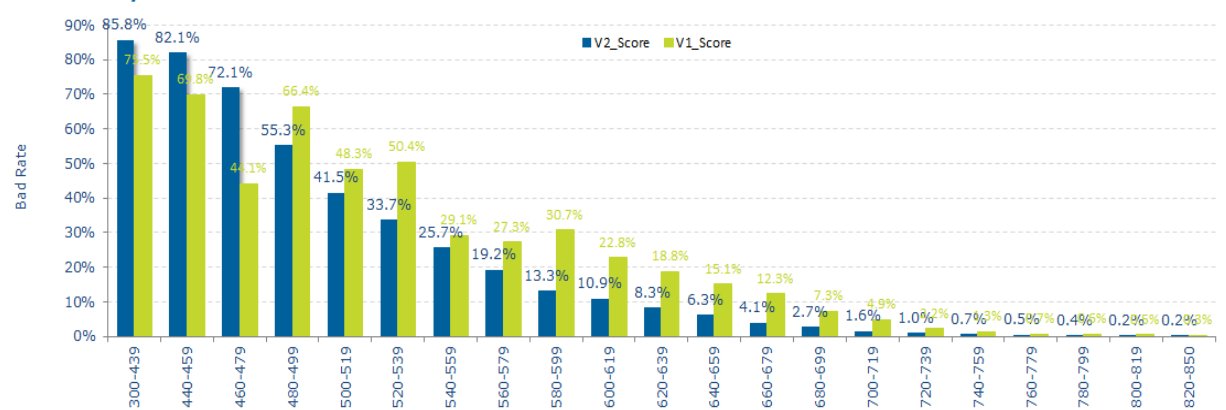
5.03

Divergence: Measures a score's ability to separate future goods from bads

Trade-Off Curve: Goods vs. Bads - All
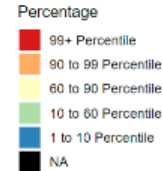

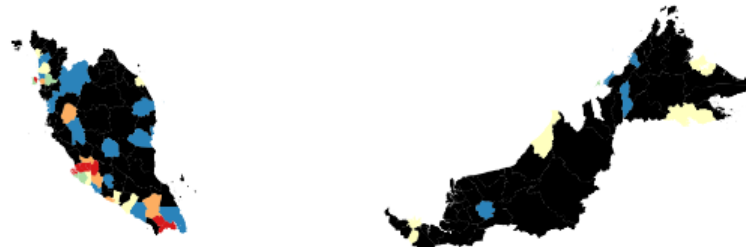Bad Rate by 20 Score Points Break - All

Industry Benchmarking Customer Insight
Use Case 2: Market Coverage Analytics (%) using heatmap/geocode machine learning algorithm

Target Digital Data Decision Strategy: **Market coverage**

Scenario: For Bank **A** the **market coverage** is very low in some regions compared to the rest of the industry. The aim for this use case is to pin point improve **competitiveness**.

2017Q1 Bank A CC Account Opened Percentage

Percentage
- 99+ Percentile
- 90 to 99 Percentile
- 60 to 90 Percentile
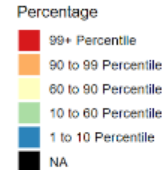- 10 to 60 Percentile
- 1 to 10 Percentile
- NA

Map data details (area name, percentage of accounts opened, age, income) are shown in here:

BankVSIndus.html

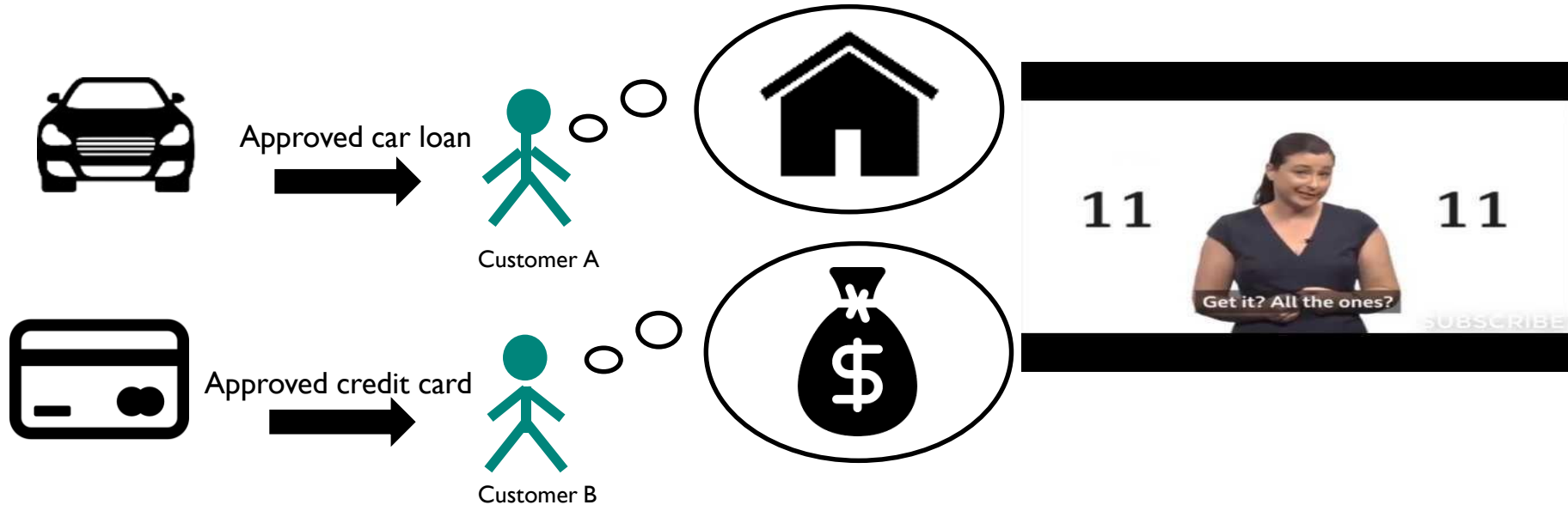2017Q1 Industry CC Account Opened Percentage

Percentage
- 99+ Percentile
- 90 to 99 Percentile
- 60 to 90 Percentile
- 10 to 60 Percentile
- 1 to 10 Percentile
- NA

Opportunity - Data Driven Decision on Customer Insight
Use Case 3: Next Best Product Analytics (%) using machine learning algorithm

Target Digital Data Decision Strategy: Good Customers who got just got a credit facility
Scenario: Customer A is newly approved for a car loan and is Good according to risk management. His/her next step is to purchase a house. This use case helps to identify the next best offer for customers.


Approved car loan

Customer A

Approved credit card

Customer B

11   11

Get it? All the ones?

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Opportunity - Data Driven Decision on Customer Insight
Use Case 4: Churn Analytics using machine learning algorithm

Target Digital Data Decision Strategy : Preventing good customers to churn
Scenario: The customer has high credit card utilization (high profit) in Bank A. This use case enables us to predict customer churn (3-6 months prior) so that Bank A can retain the customer.

Customer Churn Analytics
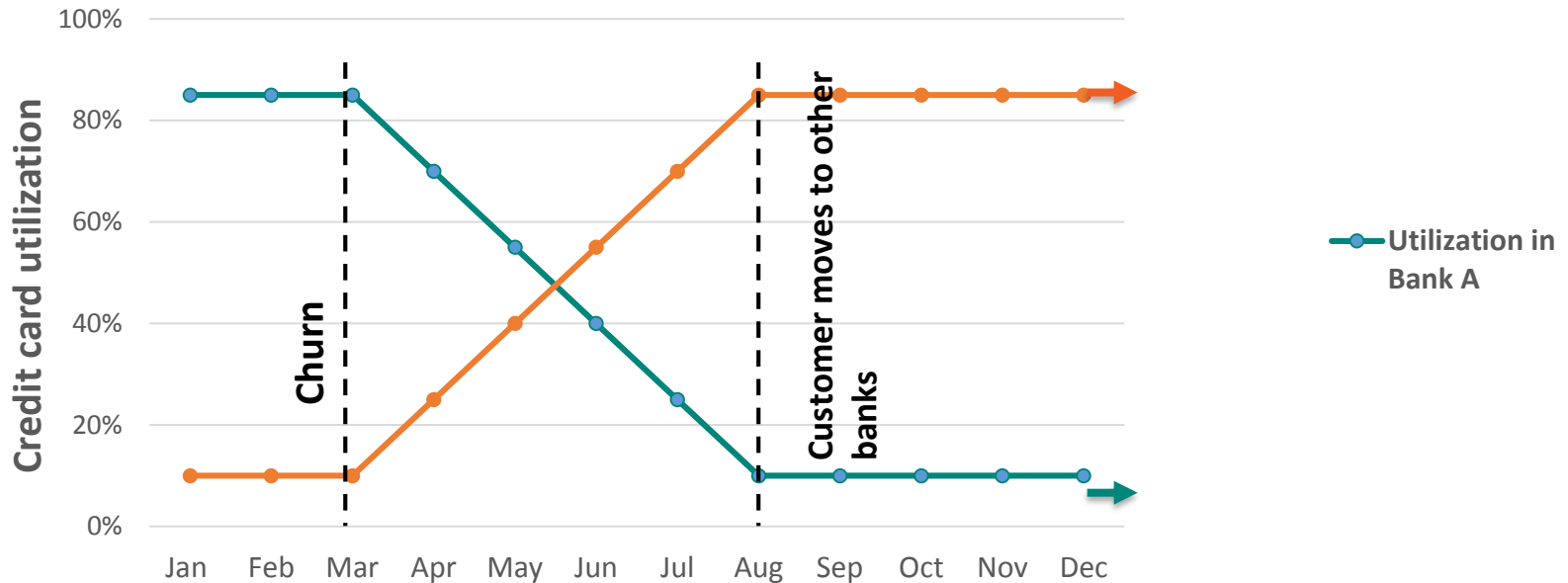
Thank You
Q&A

Contact:
Sadish Ray (GM – Data & Decision Analytics)
sadish.ray@ctos.com.my