Call Center Analytics:
Customer level Approach

Link Analysis – The Ecommerce solution for CCO Inbound Calls

The Ecommerce Recommendations

Frequently Bought Together

PD35 TAC 1000 LUMENS + 2-PACK ARB-L18-3500 + FENIX ARE-C2+ + ADAPTER 2x USB PORT FOR CAR

ADD ALL TO CART

- ☑ This item: PD35 Flashlight $17.99
- ☐ 2-pack ARB Batteries $5.99
- ☑ Fenix ARE-C2 Charger $12.99
- ☐ Car Adapter 2x USB $4.99

Customers Who Bought This Item Also Bought

Predictive Analytics For Dummies	Predictive Analytics: The Power to Predict Who...	Quantifying the User Experience: Practical...	Marketing Analytics: Strategic Models and...
› Anasse Bari ★★★★ 29 Paperback $17.72 ✓Prime	› Eric Siegel ★★★★ 229 #1 Best Seller in Econometrics Hardcover $16.88 ✓Prime	› Jeff Sauro ★★★★★ 8 Paperback $40.63 ✓Prime	› Stephan Sorger ★★★★ 29 Paperback $50.52 ✓Prime

The Computation

1010101010101
1111101011111
1100101011001
1010101000110
1010101010101
0101101011001
1011101011010
1100101010101

Unorganized Transactional Data → Data Processed by the Algorithm → Intelligent Associations
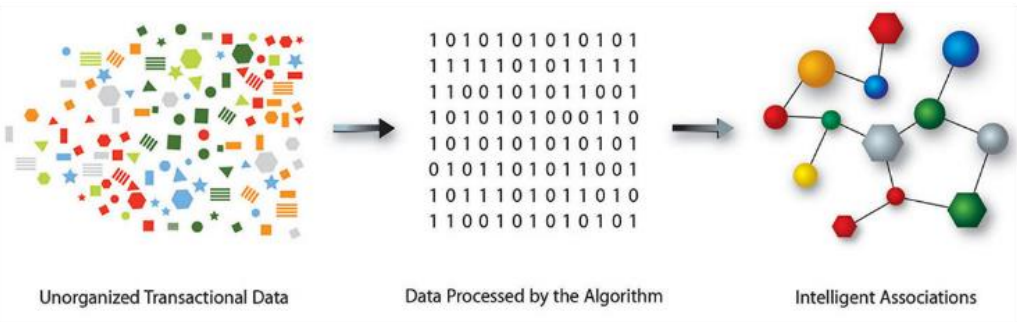
The Science

$$Support = \frac{frq(X,Y)}{N}$$

$$Rule: X \Rightarrow Y$$

$$Confidence = \frac{frq(X,Y)}{frq(X)}$$

$$Lift = \frac{Support}{Supp(X) \times Supp(Y)}$$

Rule	Support	Confidence	Lift
$A \Rightarrow D$	2/5	2/3	10/9
$C \Rightarrow A$	2/5	2/4	5/6
$A \Rightarrow C$	2/5	2/3	5/6
$B \& C \Rightarrow D$	1/5	1/3	5/9

Linked Call Example

Current/Savings Account enquiry → Account remittance enquiry

9,400+

Customers who called for Current or Savings Account enquiries, Called again in the next 5 weeks to enquire about Account Remittances
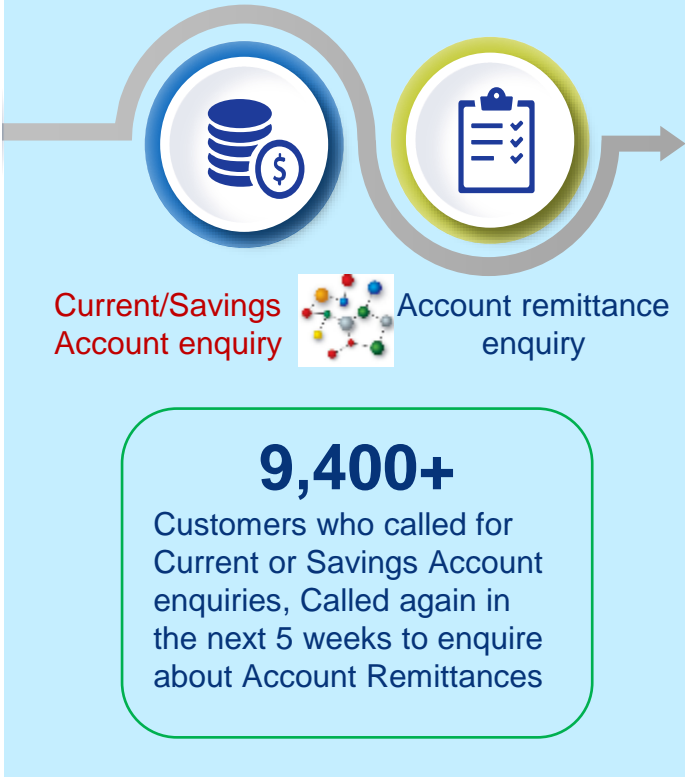
1. Link Analysis on Top Customer Call Reasons to identify similar recommended reasons

2. Recommended Reasons are the ones for which a customer is highly likely to call again If he has called for the Primary Reason

3. Proactive Communication for the Recommended Reason along with or just after the Primary one will reduce additional calls

Identifying Customers with Similar Call Reasons - CLUSTER ANALYSIS

Objective: Identify customers with similar Calling Reason & reduce Calls

K means clustering :

K-means algorithm identifies k number of centroids, and then allocates every data point to the nearest cluster, while keeping the centroids as small as possible based on Euclidean Distance

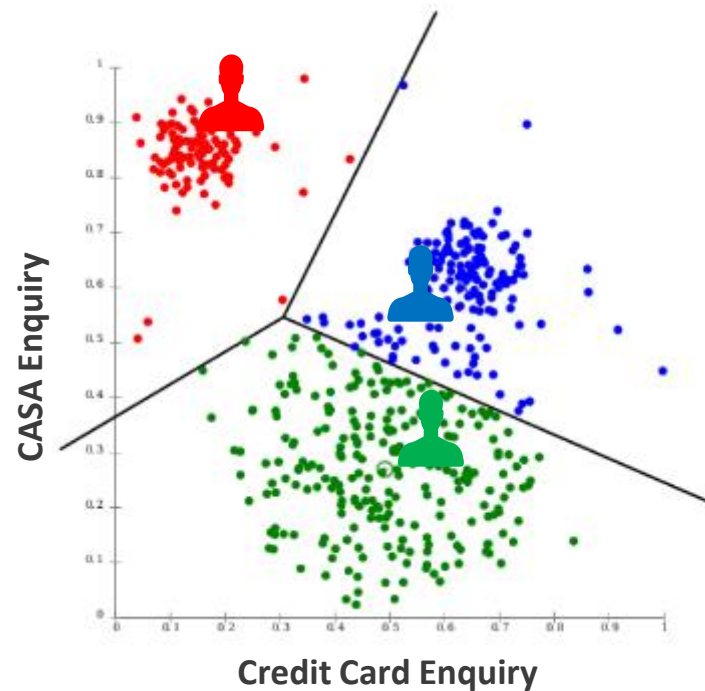Illustration of Clustering with 3 types of Customers

15% CC Enquiry
65% CASA Enquiry
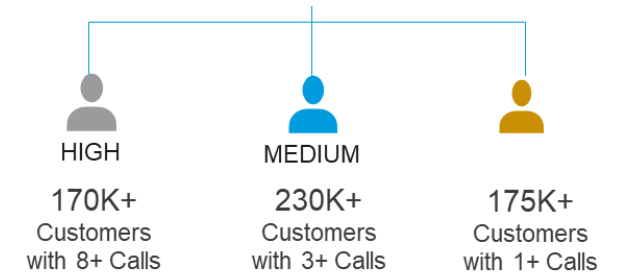
45% CC Enquiry
50% CASA Enquiry

50% CC Enquiry
25% CASA Enquiry

CASA Enquiry

Credit Card Enquiry

CLUSTER

K-means algorithm identifies k number of centroids, and then allocates every data point to the nearest cluster based on Euclidean distance

Clustering among 3 groups

HIGH
170K+
Customers
with 8+ Calls

MEDIUM
230K+
Customers
with 3+ Calls

175K+
Customers
with 1+ Calls

Defining Clusters:

Top Reasons capturing 43% calls:

o Card Trxn/Statement Enquiry (11%)
o Card Installment (10%)
o GENERAL-ONLN Enquiry(9%)
o General Enquiry (7%)
o CC Block/ Replace (6%)

Customer Example for Cluster Allocation

CUSTOMER A (High)

CLUSTER ALLOCATION

NATIONALITY

SALARY
13k

AGE
29

SEGMENT
PSB INDIVIDUAL

DIGITAL SCORE
46 Medium

BANKING PROFILE

PRODUCT
Credit Card

CASA BAL
Low

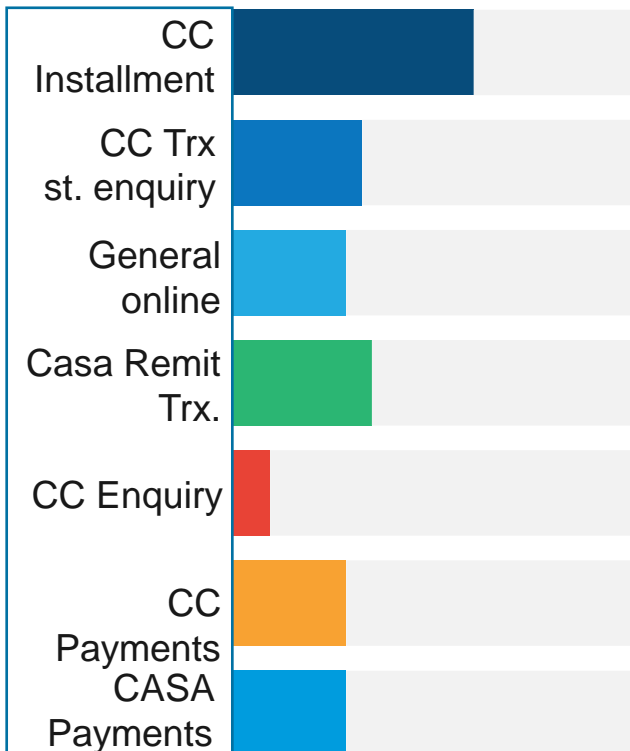Revenue Potential
Low

CC Balance
Medium

Revenue
Low

CC Spends
Low

REASONS TO CALL

- CC Installment
- CC Trx st. enquiry
- General online
- Casa Remit Trx.
- CC Enquiry
- CC Payments
- CASA Payments

Calls once a month

OB/MB active

Avg. call duration

Since the customer calls more than 8 times in a year, he is a part of **High Engagement Group**

H3

Based on his Call Behavior, Persona, digital activity & financial behavior, the customer falls into the cluster H3

Customer Example for C2S2 Computation

CUSTOMER A (High)

C2S2 Computation for the Customer

NATIONALITY

SALARY (3/3)
13k

AGE
29

SEGMENT
PSB INDIVIDUAL (5/5)

DIGITAL SCORE
46
Medium

BANKING PROFILE

PRODUCT
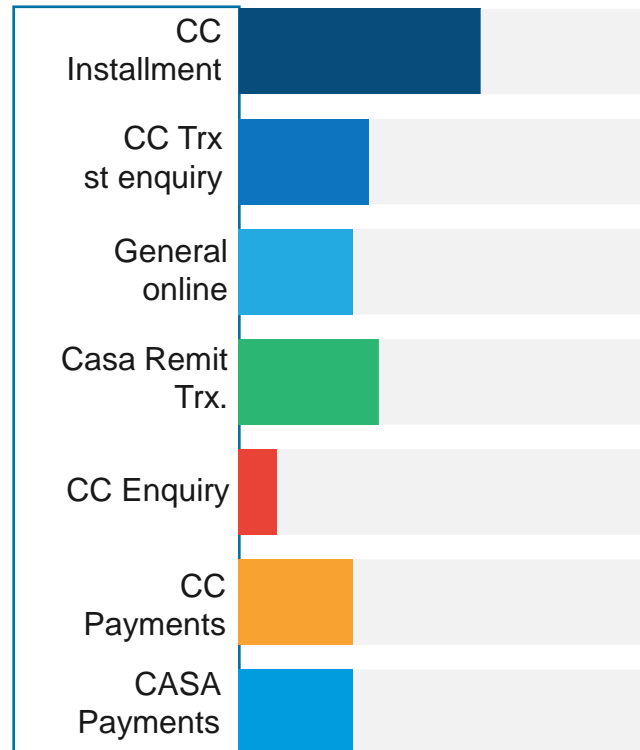**Credit Card**

CASA BAL (3/3)
Low

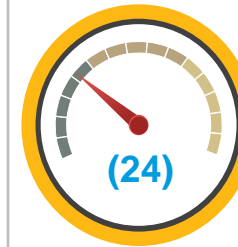Revenue Potential (6/6)
Low

CC Balance (2/3)
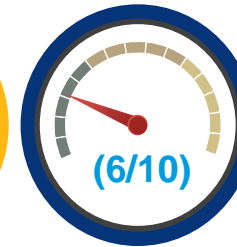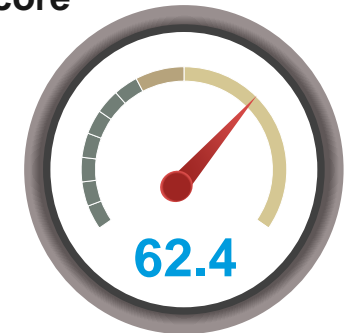Medium

Revenue (6/6)
Low

CC Spends (3/3)
Low

REASONS TO CALL (10)

- CC Installment
- CC Trx st enquiry
- General online
- Casa Remit Trx.
- CC Enquiry
- CC Payments
- CASA Payments

Calls once a month
(24)

OB/MB active
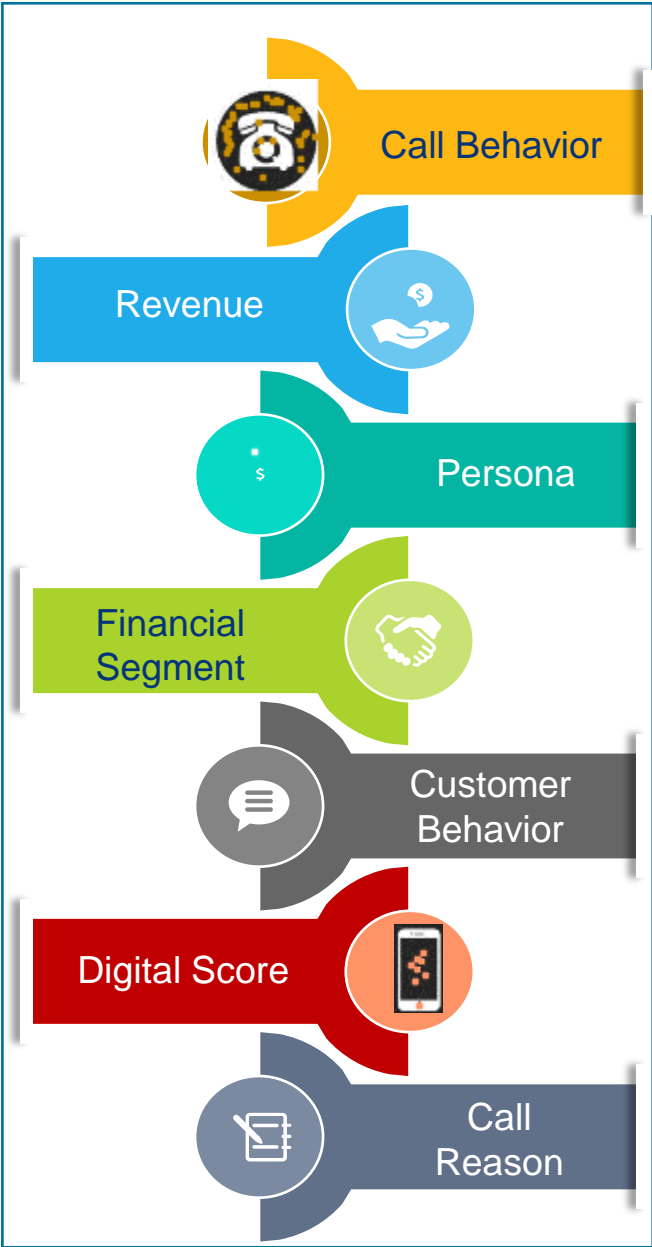(6/10)

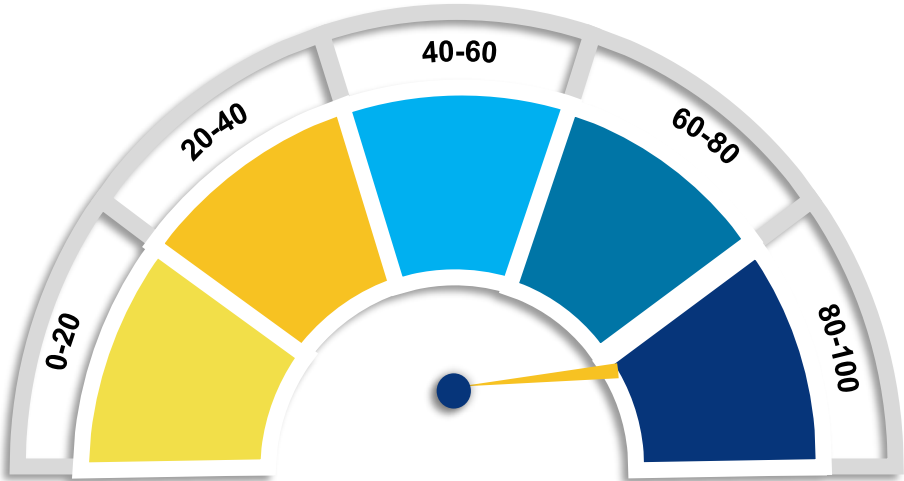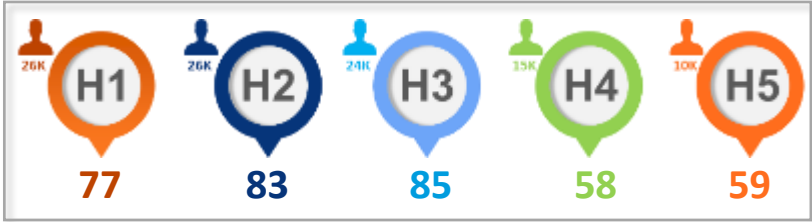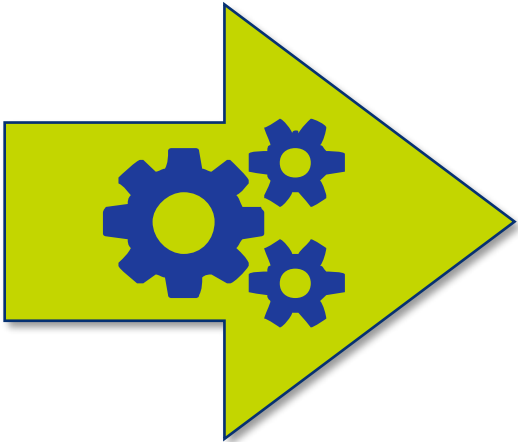**Avg. call duration**
(-3.6)

C2S2 Score

H3

62.4

Customer C2S2 computed based on various attributes with Call Reason, Call Vol, Revenue being the Key ones

Customers with High C2S2 to be de-prioritized for Agent Call Transfers

Call Behavior

Revenue

Persona

Financial Segment

Customer Behavior

Digital Score

Call Reason

Multi-Attribute Value Model

26K	26K	24K	35K	10K
H1	H2	H3	H4	H5
77	83	85	58	59

0-20
20-40
40-60
60-80
80-100

C2S2 - CUSTOMER CALLS & SERVICE SCORE

Low → High

Lower C2S2 means higher priority on Agent Call Transfers

Higher C2S2 means lower priority on Agent Call Transfers

Digital Adoption Initiatives/Plans for Migration from Inbound Calls

Personalised comms. with Vizury

Reduced Inbound Calls by communicating with customers based on their inbound calls Reason & seasonality trends


- Identify frequent inbound call center callers
- Drive them to appropriate pages on website
- Personalized messaging for top 5 Use Cases
- Mapping CCO Reasons & using cluster analysis to redirect customers to appropriate pages on website

Target customer queries on search

Use Google search ads to divert queries to the website – especially during peak hours

Google Search Ad
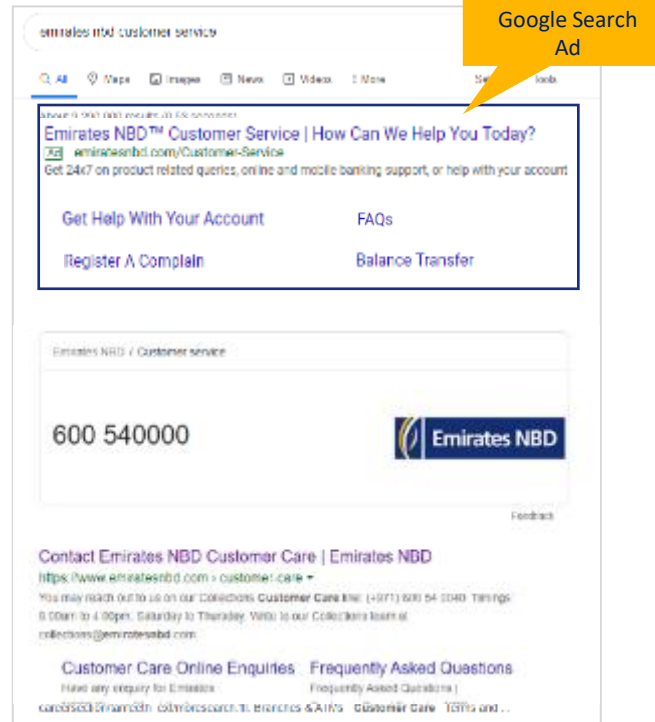
Customer Service Knowledge Series

Educate customers on 1 topic every week on how to use digital channels to solve their queries

1st Communication
2nd Communication
3rd Communication
4th Communication
5th Communication

Use Paid + Owned channels for promotion

Emails SMS Facebook Instagram

Thank You