

# Modern Marketing

with Oracle Analytics Cloud  
and Oracle ADW

Ray Owens – CEO & Founder, DX Marketing

Dan Vlamis – President, Vlamis Software Solutions

Tim Vlamis – VP, Vlamis Software Solutions

Sep 17<sup>th</sup> 2019 1:45 pm #BUS4162

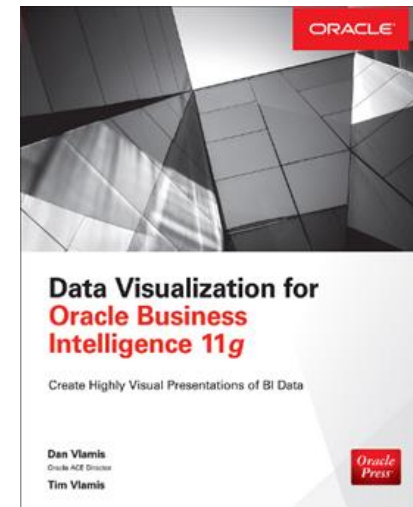


# Vlamis Software Solutions

- Vlamis Software founded in 1992 in Kansas City, Missouri
- Developed 200+ Oracle BI and analytics systems
- Specializes in Oracle-based:
  - Enterprise Business Intelligence & Analytics
  - Analytic Warehousing
  - Machine Learning & Predictive Analytics
  - Data Visualization
- Multiple Oracle ACEs, consultants average 15+ years
- [www.vlamis.com](http://www.vlamis.com) (blog, papers, newsletters, services)
- Co-authors of book “Data Visualization for OBI”
- Co-author of book “Oracle Essbase & Oracle OLAP”
- Oracle University Reseller
- Oracle Gold Partner

 ORACLE EDUCATION RESELLER

 ORACLE Gold Partner  
Specialized  
Oracle Business Intelligence  
Foundation Suite 11g



# Come Join Other Vlamis Presentations

## All Analytics, All Data: No Nonsense

Monday Sep 16<sup>th</sup>, 9:00 am

Dan Vlamis, Shyam Varan Nath, Charlie Berger

## The Analytics of Happiness

Monday Sep 16<sup>th</sup>, 10:00 am

Dan Vlamis, Cathye Pendley, Doug Schieder

## Oracle Analytics Cloud in the Bright Lights of Las Vegas

Monday Sep 16<sup>th</sup>, 1:45 pm

Raghav Venkat, Dan Vlamis

## Modern Marketing with Oracle Analytics Cloud and ADW

Tuesday Sep 17<sup>th</sup>, 1:45 pm

Dan Vlamis, Shyam Varan Nath, Charlie Berger

## Billboards to Dashboards: How OUTFRONT Media is Using OAC to Analyze Marketing

Tuesday Sep 17<sup>th</sup>, 5:15 pm

Derek Hayden, Scott Searcy, Tim Vlamis

# What Do We Do?

## THE DXM PLATFORM - XactAudience®

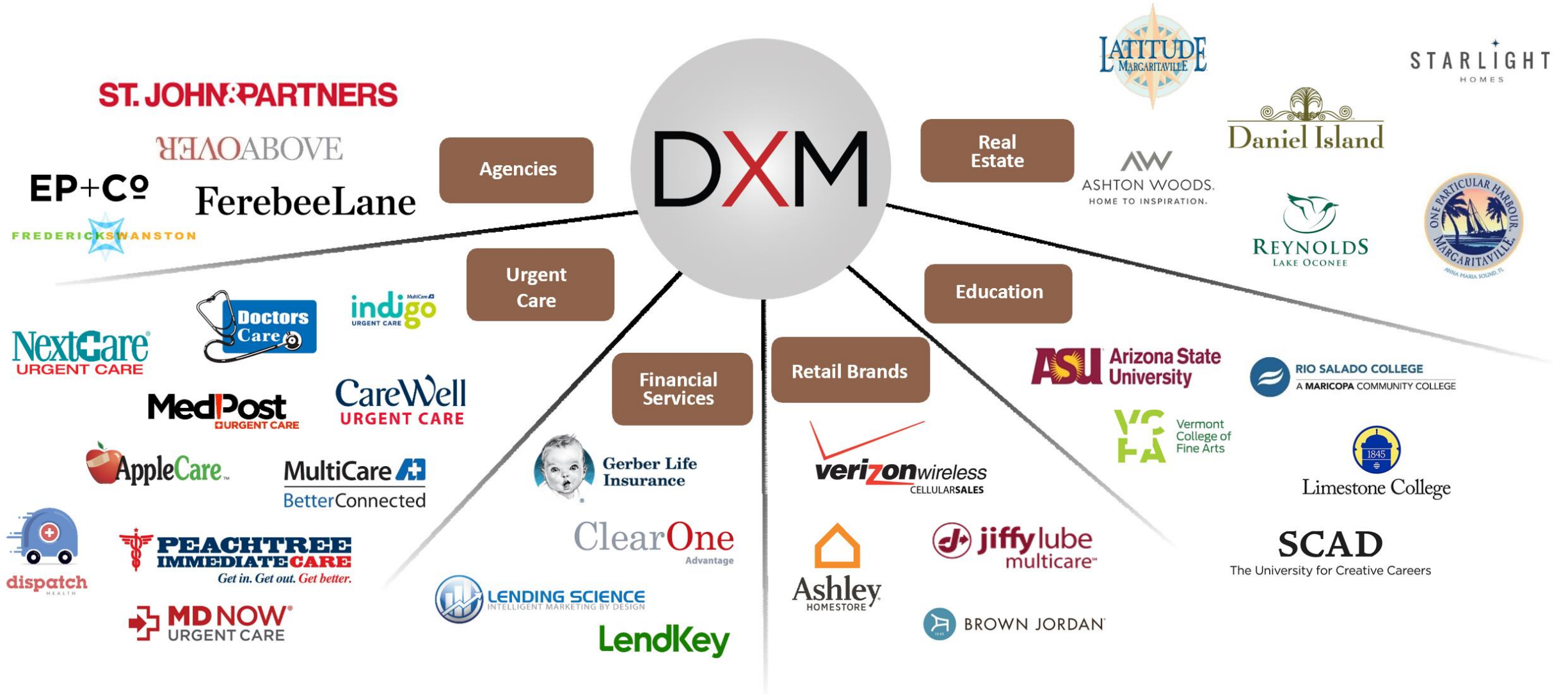
Five ways data is used to inform marketing decisions

DXM provides growing companies affordable access to enterprise level data and analytics so they can make marketing investments with greater confidence and compete more effectively.

We use these enterprise level tools to level the playing field for the small & medium business (SMB) space against larger competitors.



# DX Marketing supports multiple agencies and brands

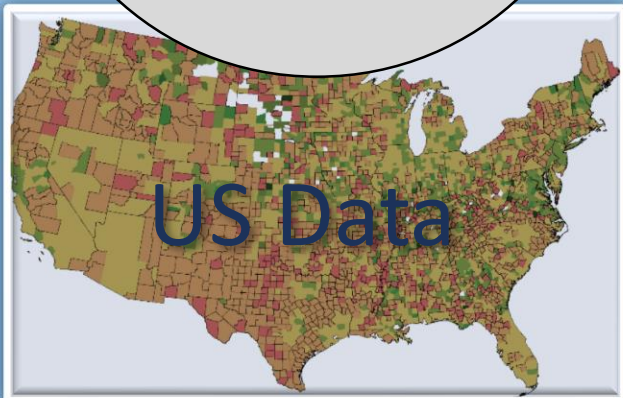
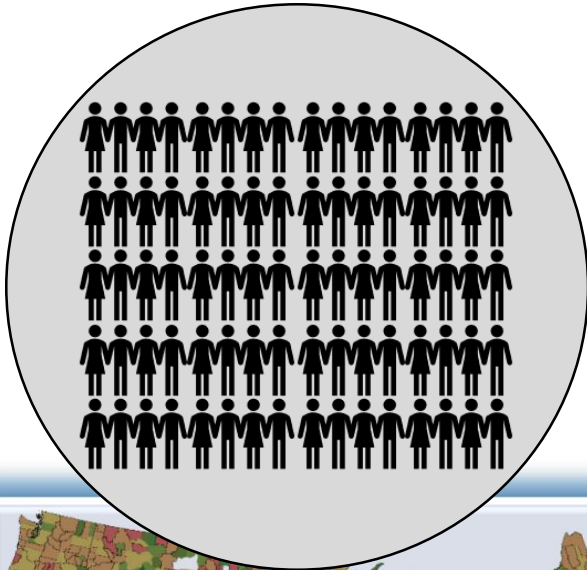


# Platform integration starts with three key pillars

**ORACLE**  
Cloud Infrastructure

**ORACLE**  
Autonomous  
Database

Oracle Advanced Analytics for  
Modeling and Prospecting



**ORACLE**  
Data Cloud

Identity Graph/OnRamp

**Name + Postal**  
[SallySmith1981@gmail.com](mailto:SallySmith1981@gmail.com)  
[SallyS1981@yahoo.com](mailto:SallyS1981@yahoo.com)

**Email IDs**  
Twitter: @sally1983yeah  
Facebook: Susan X. Smith  
Snapchat: SS1983Yeah  
Pinterest: SSYeahFoodie  
Instagram: SSYeah1983Now

**Cookie IDs**  
IDFA3245  
AdID 6687

**Mobile IDs**  
Home: 124 Main Street, Albany NY  
Work: 123 Corporate Park, Albany NY

IE ID Device 1 67543  
Chrome ID Device1 87546  
Chrome ID Device2 98766  
I.P. Address: 148.87.13.11  
I.P. Address: 148.89.33.22

90% of Online Identities

**ORACLE**  
Data Cloud

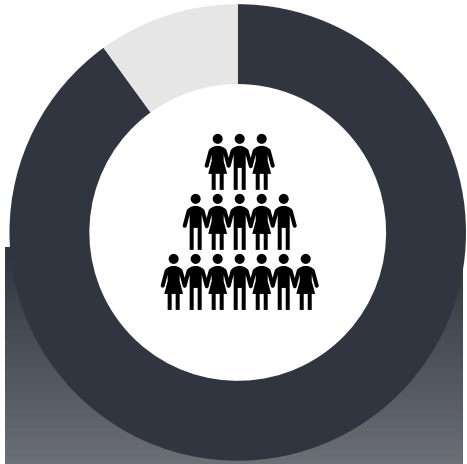
Data Management Platform



Billions of Data Points

# Prodigious data flow from ADW, Oracle Data Cloud and Media Partners

## US Consumer Data



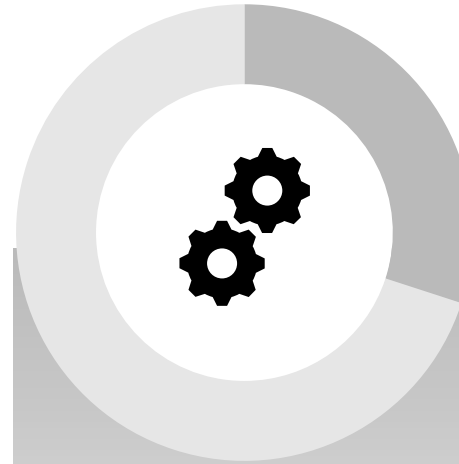
320 million records with  
over 3,000 variables

## Client Data



Client CRM data for  
profiles and analyses

## Predictive Models



Custom predictive  
models: Look-alikes

## Campaign & Responder Data

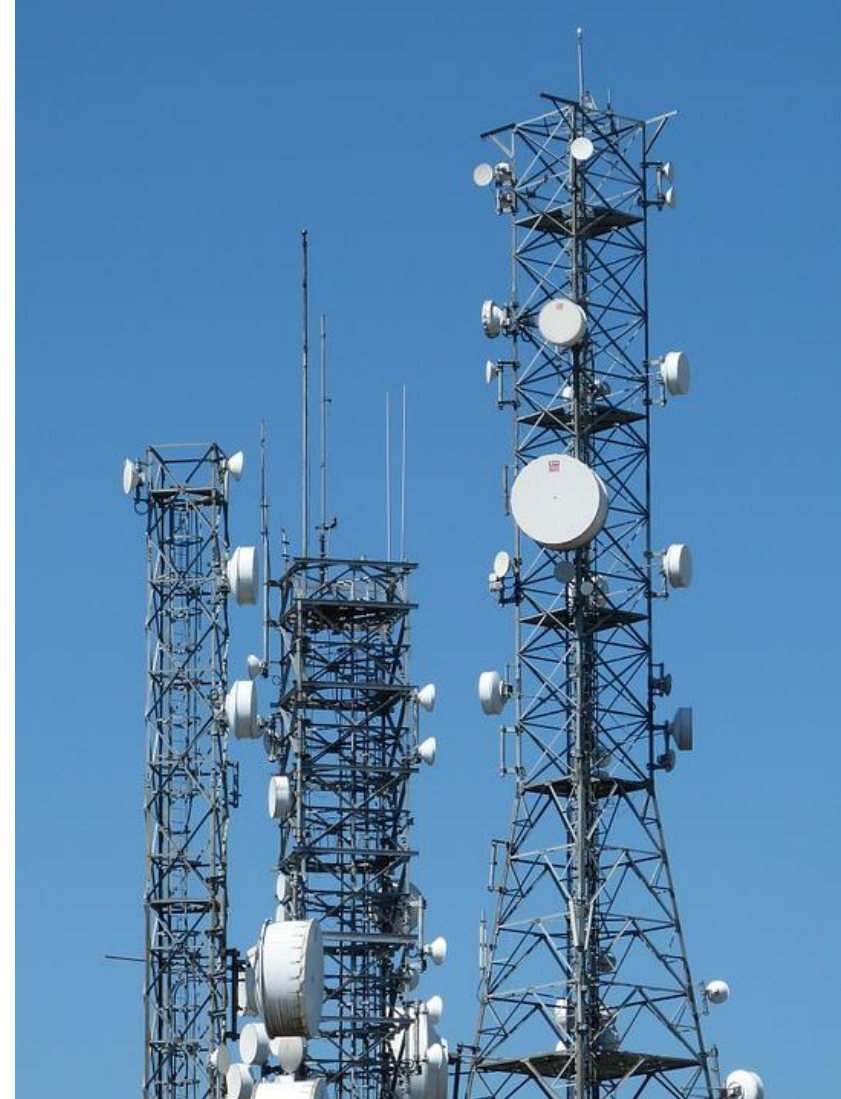


KPI's and analyses from  
client transactional data  
and campaign logs

# National Telecom Project Transforms Marketing ROMI

When DX Marketing was presented with finding a solution to a national Telecom client's high customer acquisition costs and indeterminate marketing ROMI for its acquisition programs, DXM turned to Oracle's Database, Analytics and Data Cloud for answers.

After just **six months** of campaign execution, customer **acquisition costs had dropped well over half** and the accompanying return on marketing investment revenues was positive with just one transaction. For the first time, the client was able to tie an offline, retail customer purchase back to its marketing spend, producing a quantifiable **marketing ROMI** across several channels.



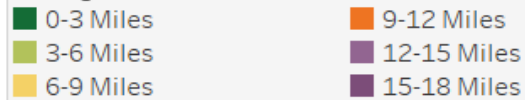


# 8 MILLION CUSTOMERS > AVG. DISTANCE TRAVELED TO STORE > ALL REGIONS

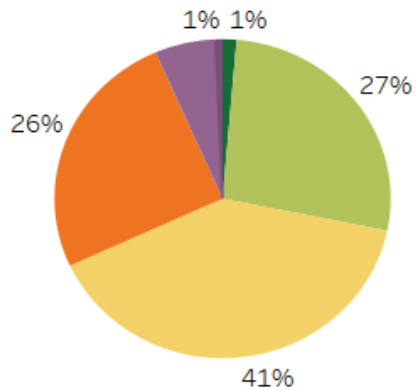
Average Distance from Store

Region 1	7.5
Region 2	8.4
Region 3	7.0
Region 4	6.5
Region 5	8.0
<b>Grand Total</b>	<b>7.7</b>

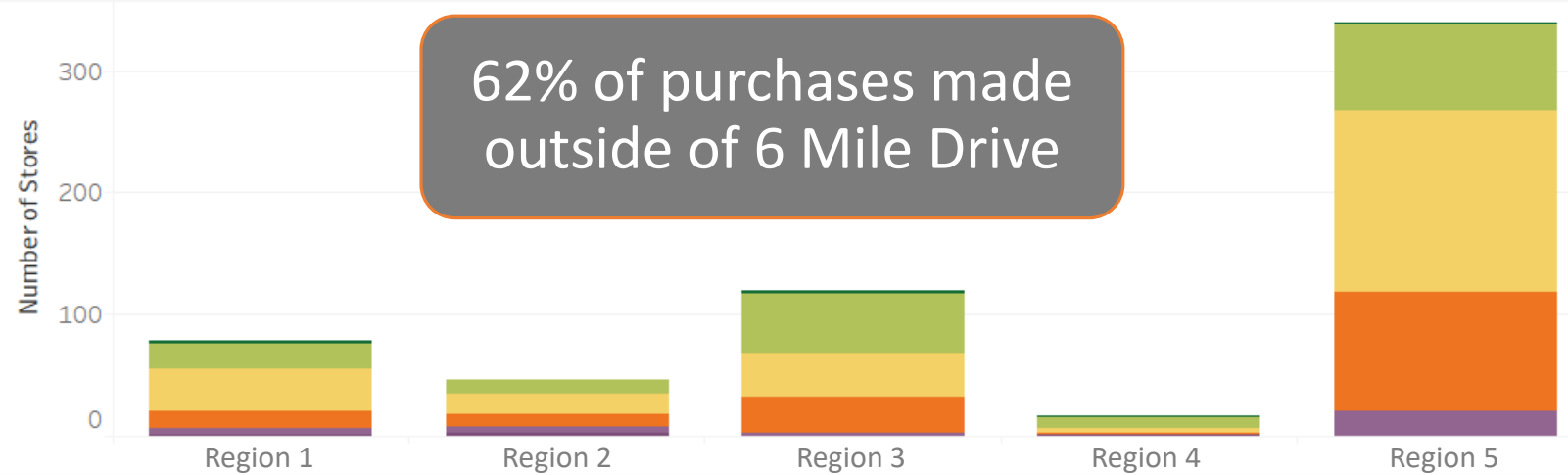
Average Distance from Store



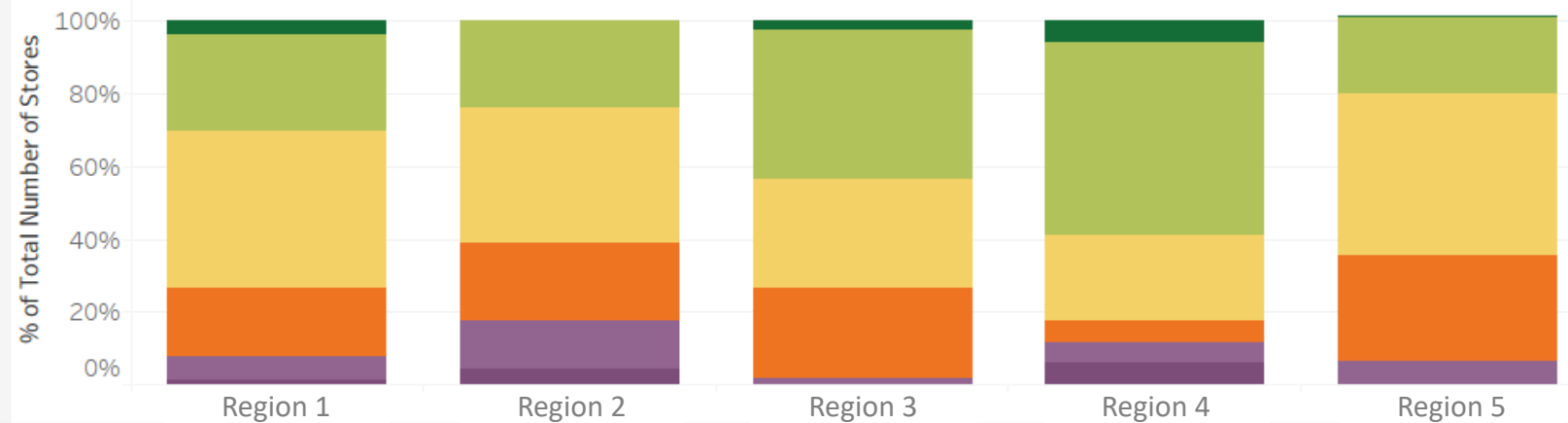
% of Stores by Average Distance from Store



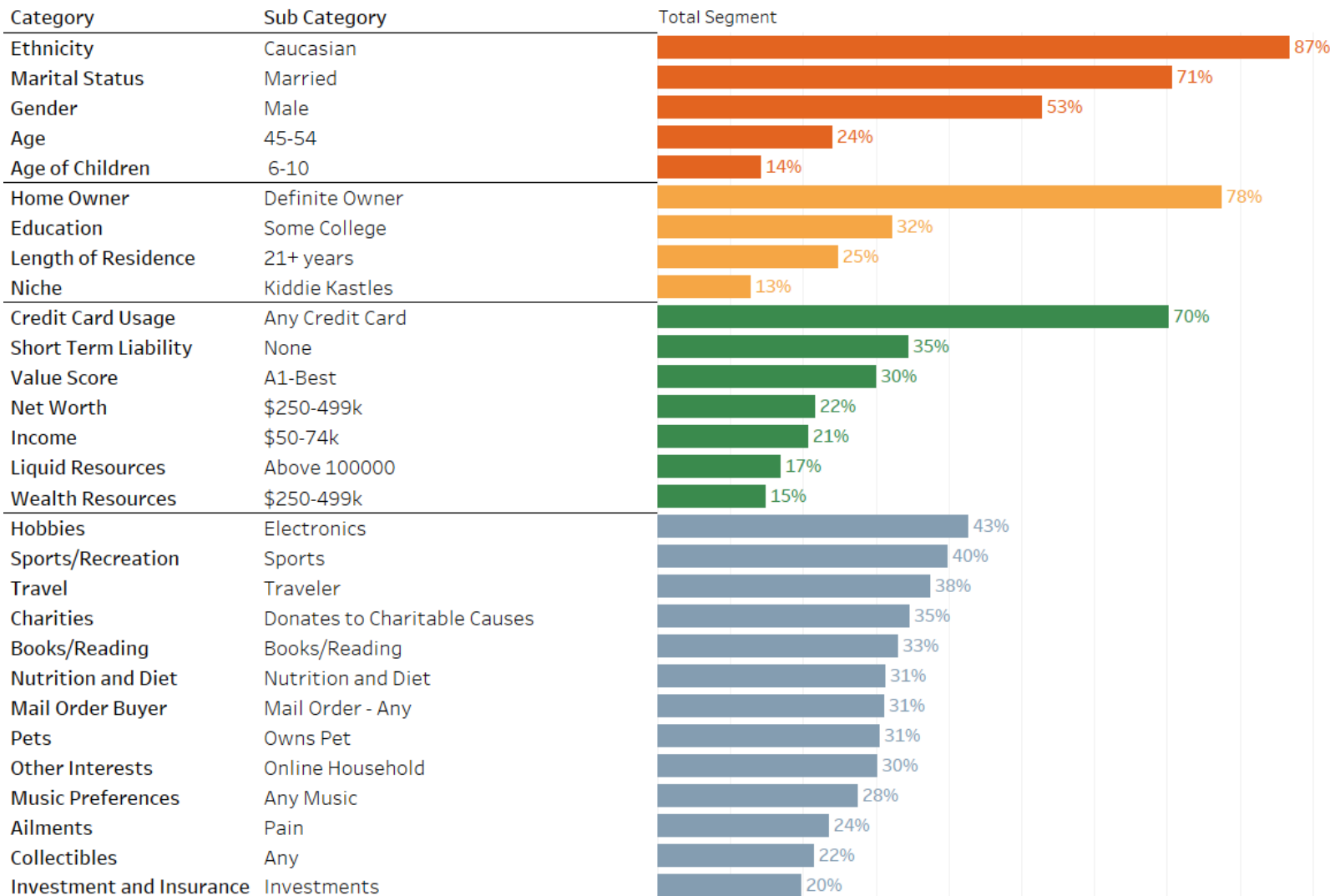
Average Distance from Store



Average Distance from Store - % of Total Stores



# TOP LINE DASHBOARD > HIGHLIGHTS > ALL CUSTOMERS BY HIGHEST % of VARIABLE



## OBSERVATIONS

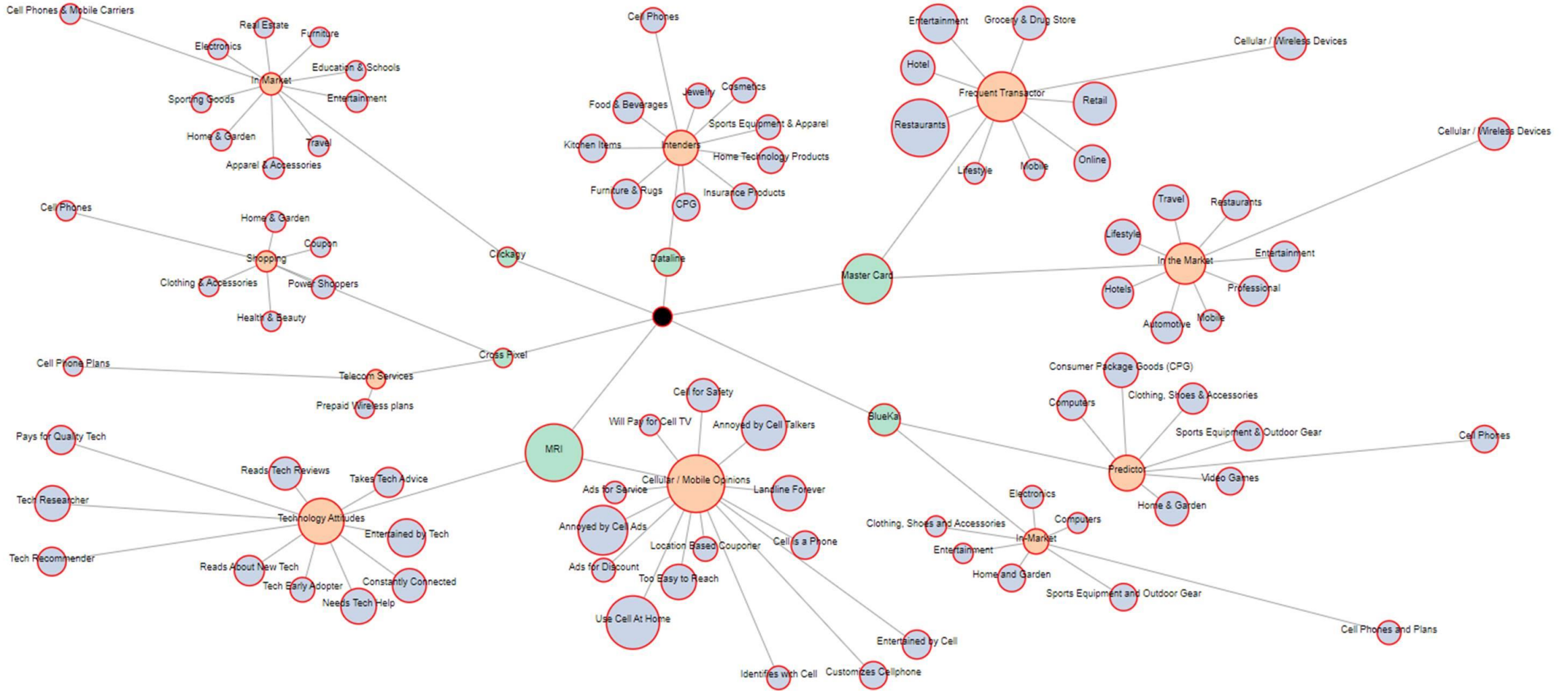
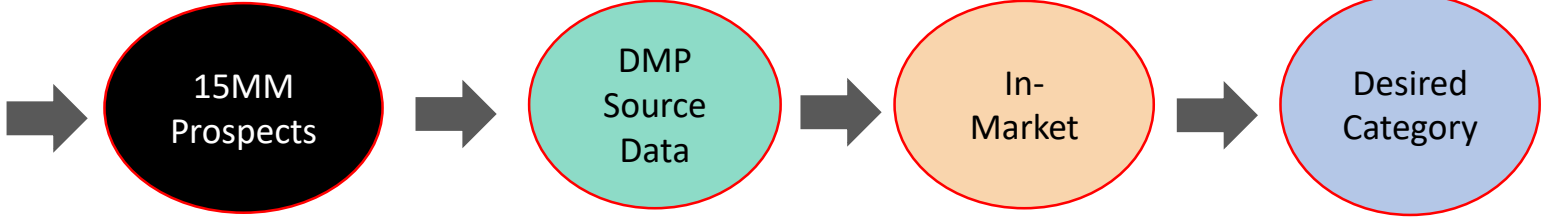
**Demographics:** Most customers are Caucasian, married, slightly skew males, ages 35 to 64 represent 64% of all customers, and more than half have children of all ages – largest being 14% with children ages 6-10.

**Socio-economic:** Most customers are home owners with some college or higher education attainment – especially graduate degrees. 25% have lived at their residence for 21+ years. However, when compared to the market, there is a large segment (32%) of customers who have a LOR under 6 years. They are best represented by the Kiddie Kastles - a Niche cluster which is indicative of presence of children.

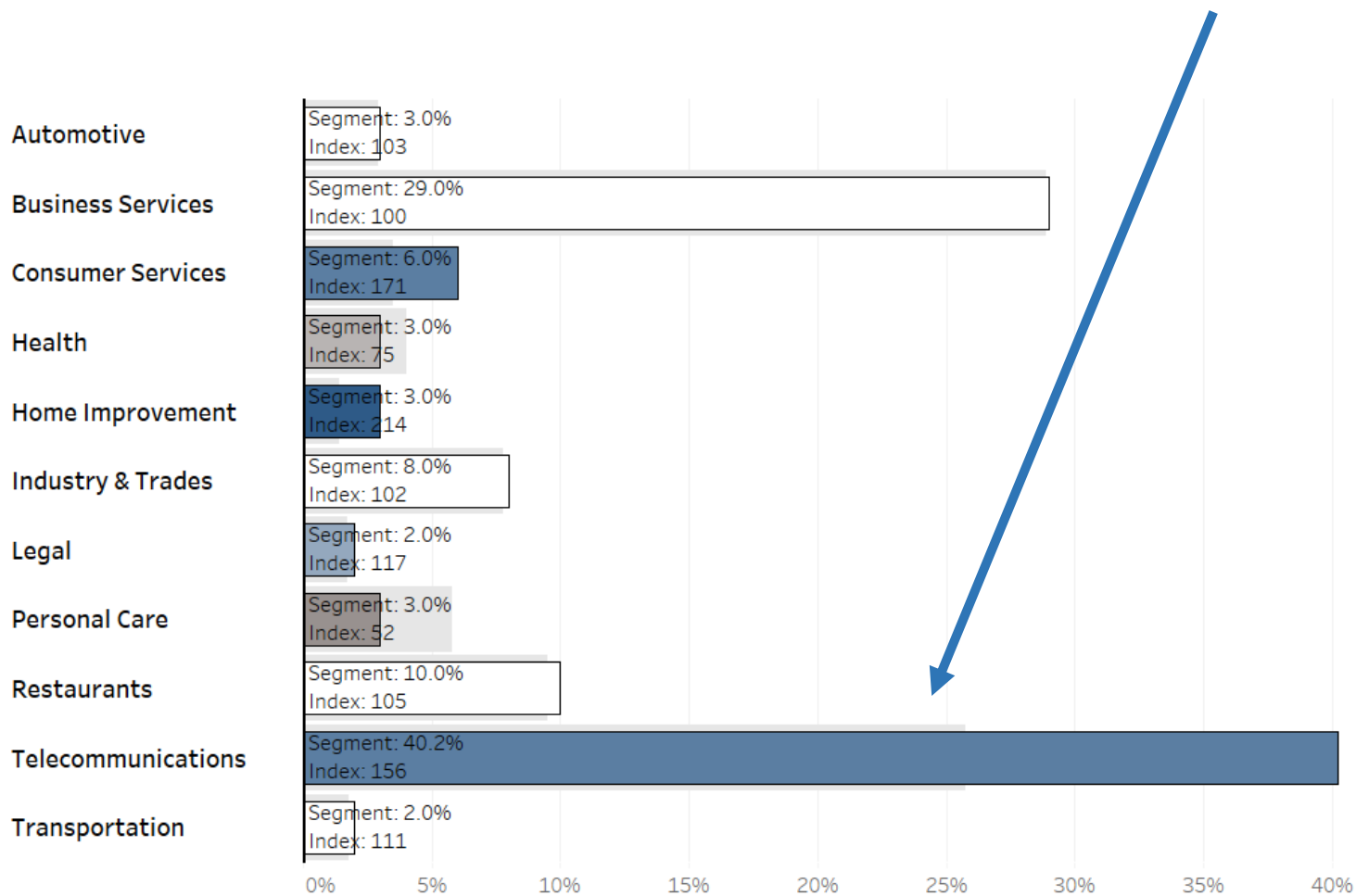
**Financial:** The majority of customers use credit cards and have little short term liabilities and possess the best ValueScores – an indication of good credit. They have considerable net worth and middle to high incomes as well as more cash and wealth resources.

**Interests:** Customers self report interests in electronics, playing sports and can be seen donating to any number of causes. You may find them reading or listening to music to unwind. These nutrition conscious, pet owners, enjoy traveling, especially cruise ships. They are into investments and purchase products through the mail.

DMP – Runs through 70K touch points for cell phone intent and purchasing



# 40% of existing customers searched for **DEVICES OR PLANS** in the last 30 days



Specific to devices, during the same period, customers were 33% more likely to have searched for iPhones



# CART Decision Tree for National Telecom CRM Prediction



## National Telecom CART Train Binary Classification Model

Save

Close

General

Positive Label for Customer Yes Yes

Quality

F1 Value 0.32

Access

Model Accuracy 64%

Related

Precision 21%

Recall 70%

False Positive Rate 37%


Predicted Values

	Yes	No	Total
Actual Values Yes	2897	1256	4153 (12%)
No	11135	18836	29971 (88%)
Total	14032 (41%)	20092 (59%)	34124 (100%)

Correct Prediction 0 100%

Incorrect Prediction 0 100%

# SVM for National Telecom CRM Prediction



## National Telecom SVM Train

Binary Classification Model

Save Close

General

Quality

Access

Related

Positive Label for Customer Yes Yes

F1 Value 0.01

Model Accuracy 88%

Precision 37%

Recall 0%

False Positive Rate 0%


Predicted Values

	Yes	No	Total
Actual Values Yes	19	4134	4153 (12%)
No	32	29940	29972 (88%)
Total	51 (0%)	34074 (100%)	34125 (100%)

Correct Prediction 0 100%

Incorrect Prediction 0 100%

# Random Forest for National Telecom CRM Prediction



## National Telecom RF Train

Binary Classification Model

Save Close

General

Quality

Access

Related

Positive Label for Customer Yes Yes

F1 Value 0.29

Model Accuracy 57%

Precision 18%


Recall 71%


False Positive Rate 45%

Predicted Values

	Yes	No	Total
Yes	2961	1192	4153 (12%)
No	13413	16558	29971 (88%)
Total	16374 (48%)	17750 (52%)	34124 (100%)

Actual Values

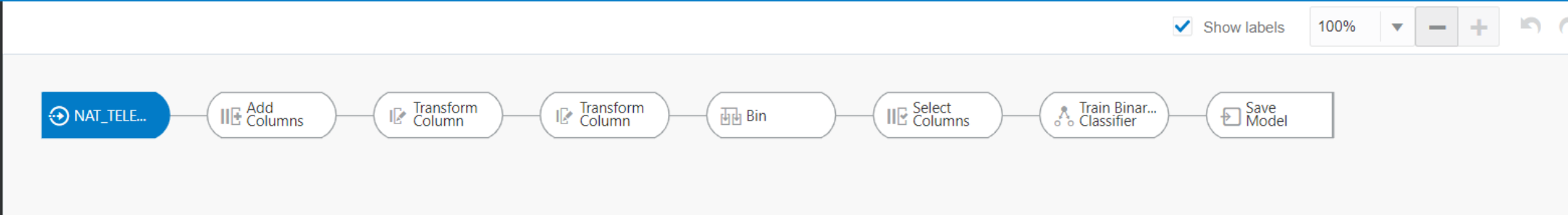
Correct Prediction 0  100%

Incorrect Prediction 0  100%

# Random Forest National Telecom CRM Prediction

**Data Flow Steps**

- Add Data
- Join
- Union Rows
- Filter
- Aggregate
- Save Data Set
- Create Essbase Cube
- Add Columns
- Select Columns
- Rename Columns
- Transform Column
- Merge Columns
- Bin



## Add Data - NAT\_TELECOM\_ML\_DATA

Data Set:  Select...

Columns:   Q

Description:  Name

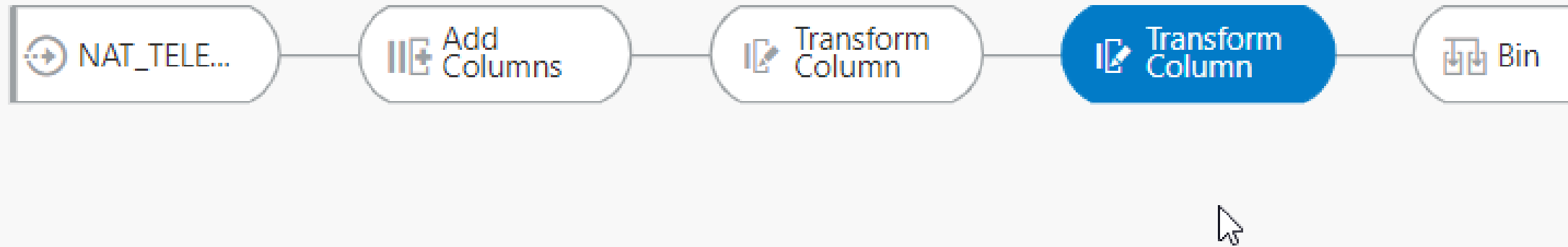
When Run:  Prompt to select Data Set

- PERSON\_ID
- ADV\_DWELLING\_TYPE
- ADV\_HOME\_OWNER
- ADV\_HSHLD\_EDU\_ENH

ab PERSON_ID	ab ADV_DWELLING_TYPE	ab ADV_HOME_OWNER	ab ADV_HSHLD_EDU_ENH	ab ADV_INDIVIDUAL_AGE	ab ADV_INDV_MARITAL_STAT
090017BE030E0C00098194	1	3	3	066	1
06016EAA030E0C01AE1AB4	1	4	4	046	1



# Transforming Columns Helps Achieve Better Machine Learning Models



## Transform Column

Transform ADV\_INDIVIDUAL\_AGE

Name

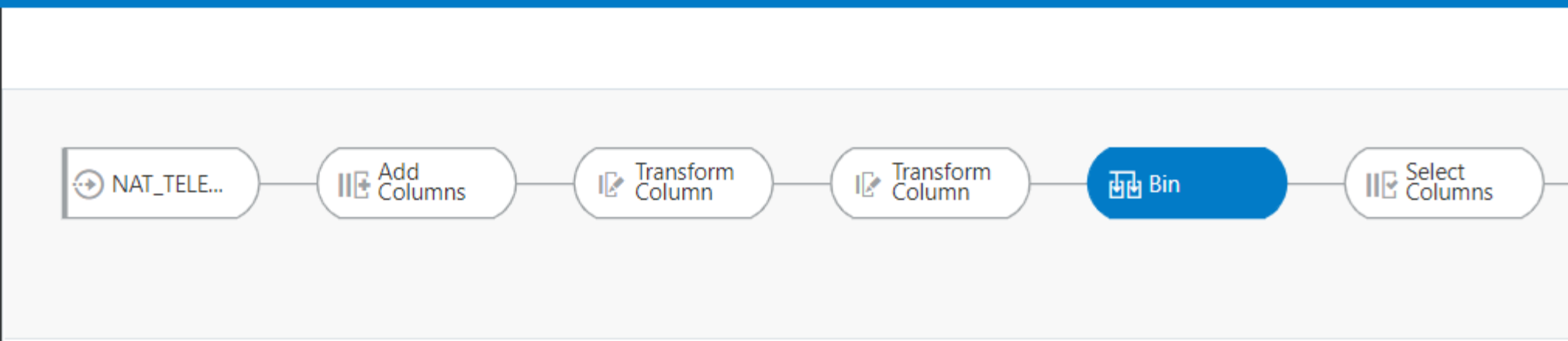
```
CAST(ADV_INDIVIDUAL_AGE AS NUMERIC)
```

# Transforming Columns Helps Achieve Better Machine Learning Models

## »» National Telecom CART Train DF

**Data Flow Steps**

- Add Data
- Join
- Union Rows
- Filter
- Aggregate
- Save Data Set
- Create Essbase Cube
- Add Columns
- Select Columns



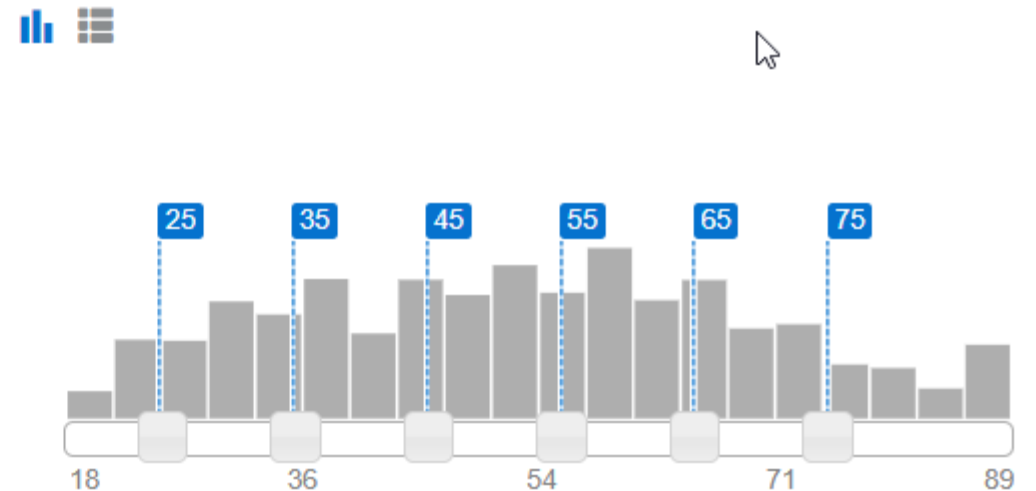
Bin

Bin ADV\_INDIVIDUAL\_AGE

New element name ADV\_AGE\_BINS

Number of bins 7

Method Manual

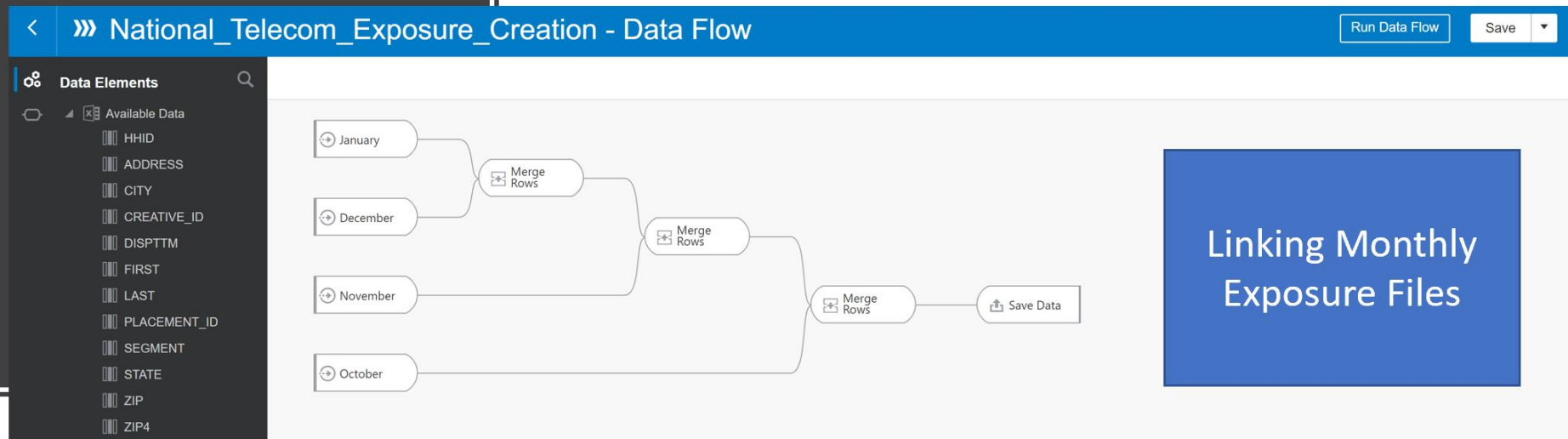


Link your audience exposure files with behavioral intent, creative execution and time stamp

HHID	SEGMENT
6061220152651WMADISONSTAPTA	BOT
6017116462575SPRUCEST	BOT
10002542834LUDLOWSTAPT17	BOT
77095719916327PINONVISTADR	MID
275169191505EDGEWATERCIR	TOP
407014174227RYDELLRD	MID
2821029465426FARMBROOKDR	MID
371223835548WINDYRD	MID
3499778252984SEBANYANST	MID
78015448243FALLSTER	BOT
9850232753030WESTSIDEDRNW	MID
17340952620ASHFIELDDR	MID
97223880110285SW82NDAVE	TOP
6312410469842WATERBURYDR	MID
37922512110035WESTLANDDR	MID
7505145912125SAVENUCE	TOP
33618421110517ORANGEGROVEDR	BOT
027804124128WINTHROPSTAPT3	BOT
3276572882872OLDKERRYCT	MID
7311220245105BYRONAVE	TOP
7652238752946SLEEPPHOLLOWDR	MID
640863079689NECLUBHOUSEDR	MID
4025829046710CAPELLALN	BOT
194401112137FAIRHILLSCHOOLRD	MID
92880450814904BAYRIDGEST	MID
7942326308501JORDANDR	TOP
9811567251319NE6STHST	BOT
7309990786789NGARDENDR	MID
4614375262646LONGLEAFDR	TOP
367018312240HARDINDR	TOP
350232244101PARKDR	MID
307226400POBOX6400	BOT
337024022126179THAVEN	MID
3015254614203SALISBURYCTNW	BOT
216640233POBOX233	MID

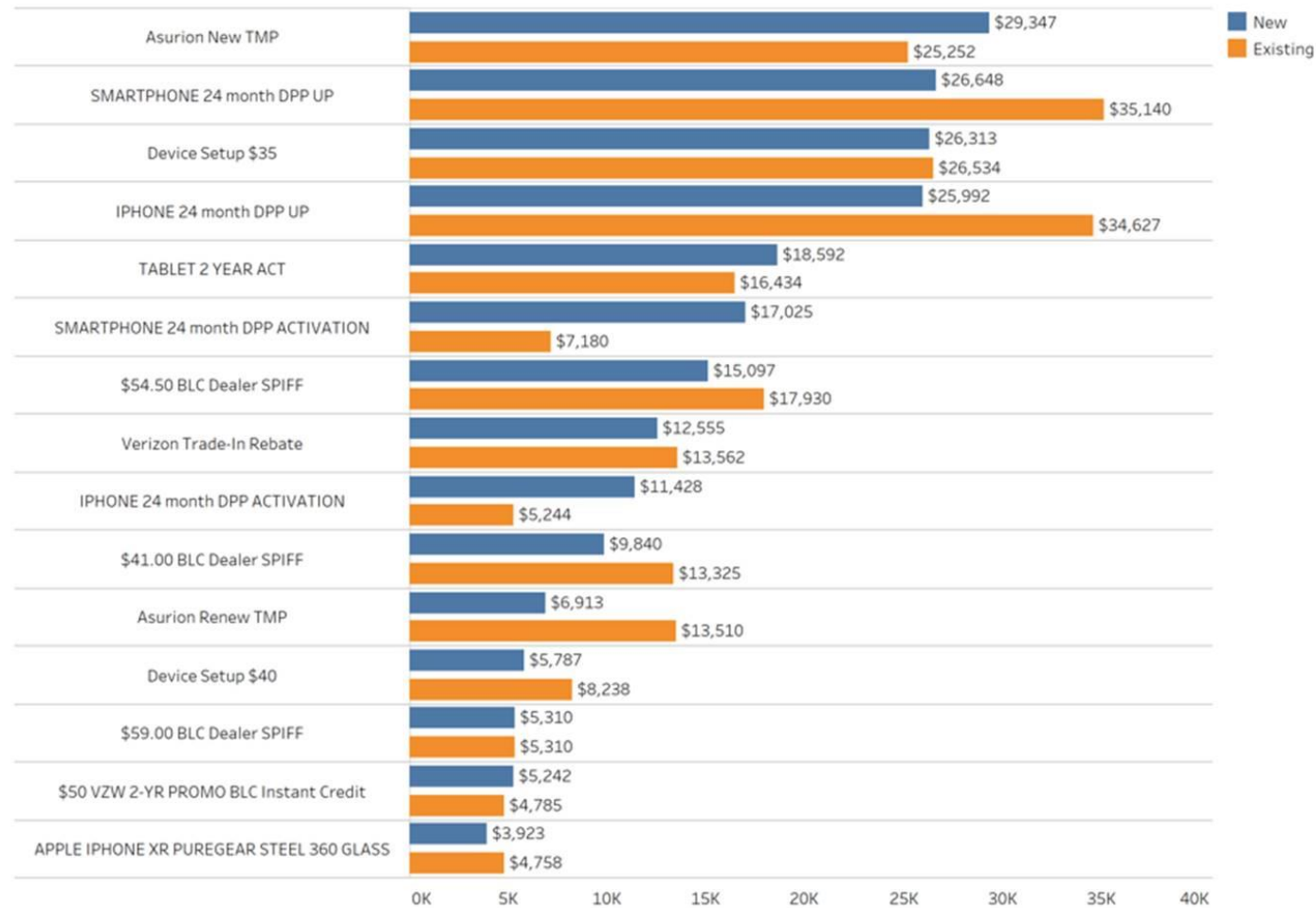
Pii  
Obscured

ZIP	ZIP4	CREATIVE_ID	PLACEMENT_ID	DISPDTM
60612	2015	99715519	230816013	12/1/2018 9:28
60171	1646	99715519	230816013	12/1/2018 9:29
10002	5428	99715519	230816013	12/1/2018 9:29
77095	7199	103203689	230816013	12/1/2018 9:29
27516	9191	99715519	230816013	12/1/2018 9:29
40701	4174	109395347	230816013	12/1/2018 9:29
28210	2946	99715519	230816013	12/1/2018 9:29
37122	3835	109395347	230816013	12/1/2018 9:29
34997	7825	103203689	230816013	12/1/2018 9:29
78015	4482	109395347	230816013	12/1/2018 9:30
98502	3275	99715519	230816013	12/1/2018 9:30
17340	9526	103203689	230816013	12/1/2018 9:30
97223	8801	109398545	230658145	12/1/2018 9:30
63124	1046	103203689	230816013	12/1/2018 9:30
37922	5121	109395347	230816013	12/1/2018 9:31
75051	4591	109395347	230816013	12/1/2018 9:31
33618	4211	109395347	230816013	12/1/2018 9:31
2780	4124	109395344	230535347	12/1/2018 9:31
32765	7288	99715519	230816013	12/1/2018 9:31
73112	2024	99715519	230816013	12/1/2018 9:31
76522	3875	103203689	230816013	12/1/2018 9:32
64086	3079	99715516	230535347	12/1/2018 9:32
40258	2904	109395347	230816013	12/1/2018 9:32
19440	1112	99715519	230816013	12/1/2018 9:32
92880	4508	109395347	230816013	12/1/2018 9:32
79423	2630	99715519	230816013	12/1/2018 9:32
98115	6725	99715519	230816013	12/1/2018 9:32
73099	9078	99715516	230535347	12/1/2018 9:33
46143	7526	103203689	230816013	12/1/2018 9:33
36701	8312	103203689	230816013	12/1/2018 9:33
35023	2244	109395347	230816013	12/1/2018 9:33
30722	6400	103203689	230816013	12/1/2018 9:33
33702	4022	109395344	230535347	12/1/2018 9:34
30152	5461	99715519	230816013	12/1/2018 9:34
21664	233	103203689	230816013	12/1/2018 9:34



# CLIENT PROVIDES TRANSACTION (POS) FILE

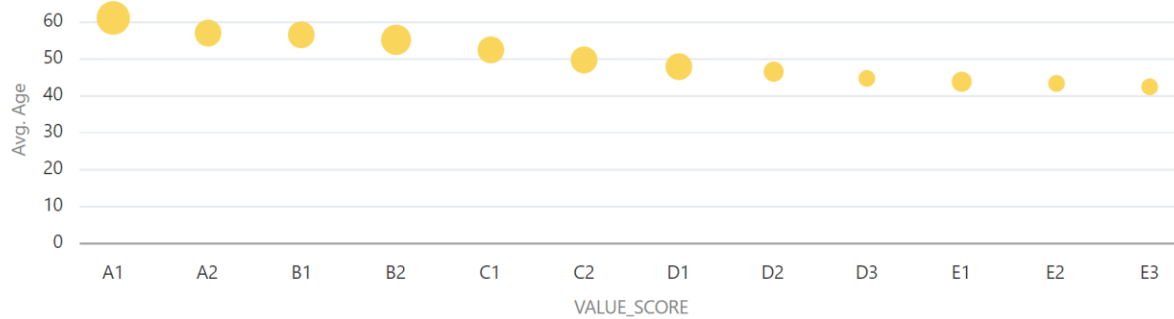
## TOP 15 PRODUCTS PURCHASED BY NEW AND EXISTING CUSTOMERS



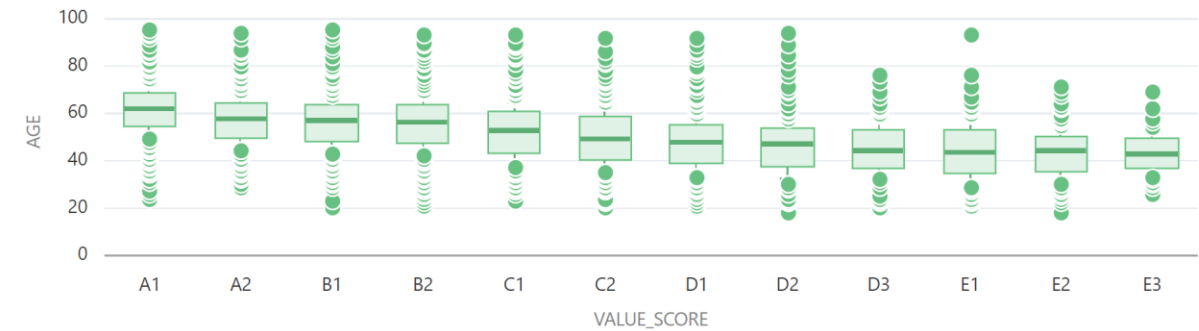
# Correlating the responder data variables reveals ability to pay gets better with age – not income

GENDER (2)  
Female, Male

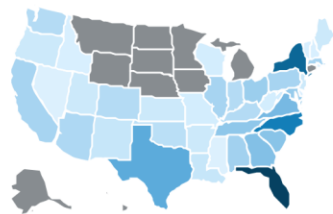
Avg. Age by VALUE\_SCORE, Responders, TARGET\_INCOME



AGE by VALUE\_SCORE, PERSON\_ID



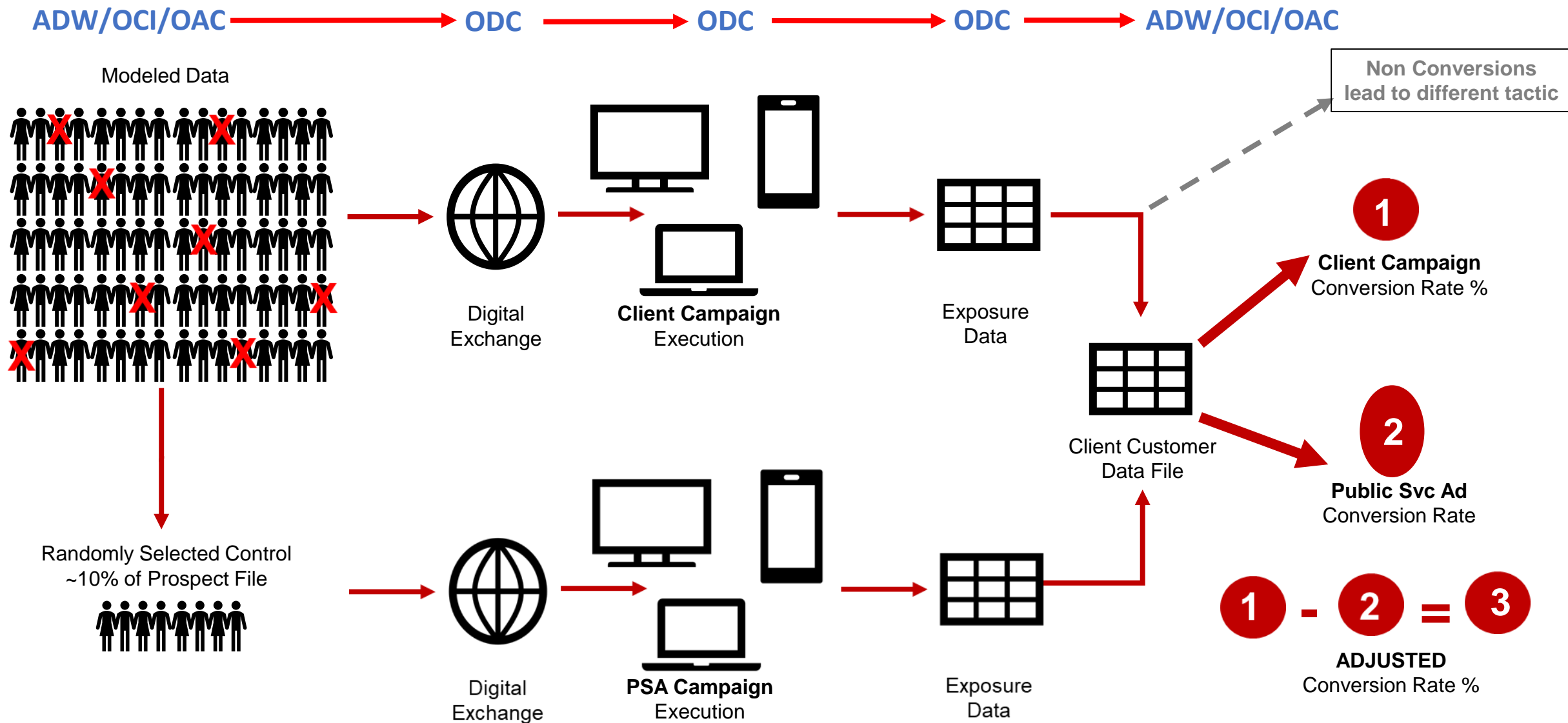
ST, Responders



Responders by GENDER

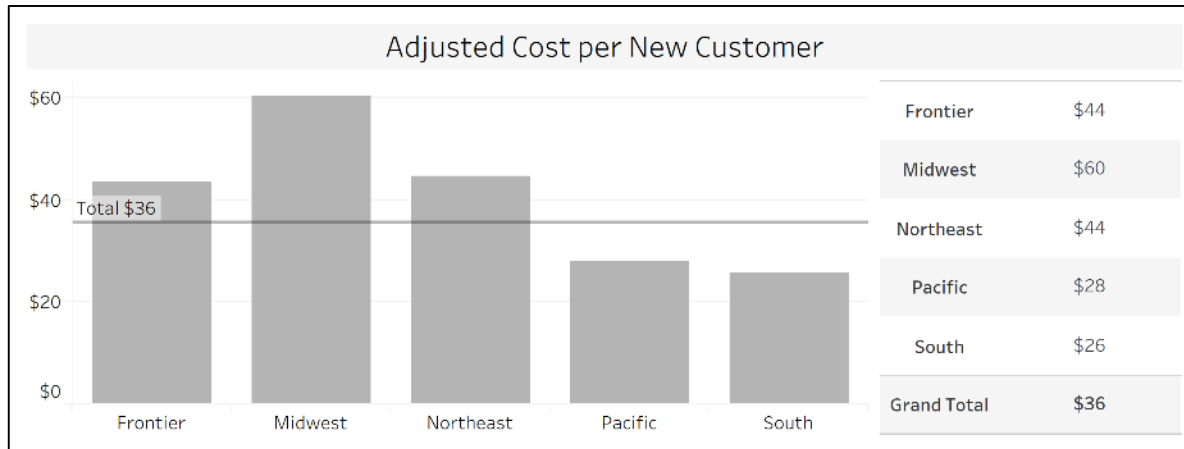


# Process chart shows campaign and random control group through different cloud solutions



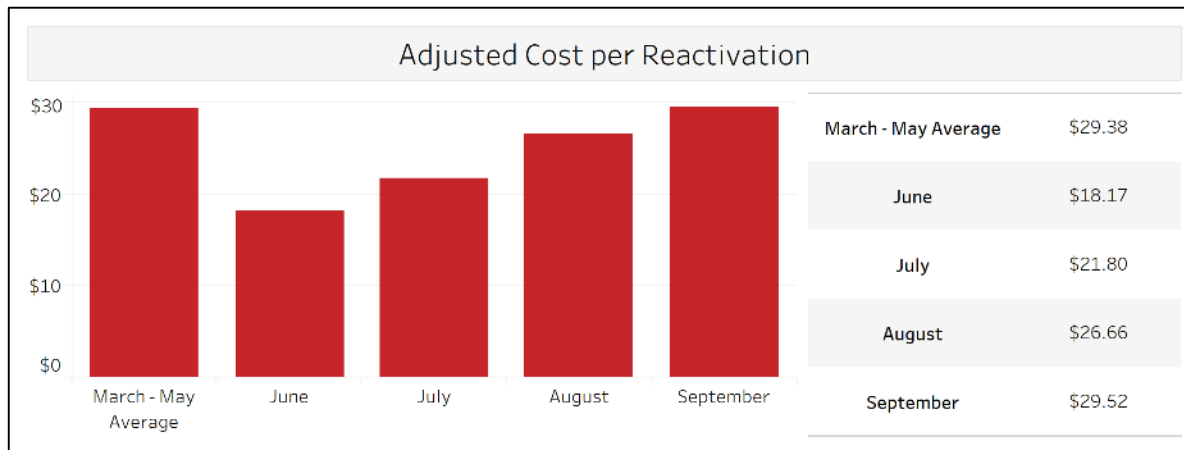
# RESULTS: Positive ROMI on one transaction and lowered cost of acquisition by \$50

Segment	Total Spend	Unique HH	HH Conversion	Conversion %	Control Qty	Control Conversions	Control Conversion %	Adjusted Conv Rate	Adjusted Conversions	Adj. Cost per New Customer	Adjusted CLT ROMI (Transaction File CLT)	Conv Index
DXM Market Trend/Model	\$211,051	453,381	4,494	0.99%	37,485	141	0.38%	0.62%	2,789	\$35.57	\$3.06	135
Client Demo Model		847,815	5,377	0.63%	66,612	174	0.26%	0.37%	3,162			82
<b>TOTAL:</b>		<b>1,301,196</b>	<b>9,871</b>	<b>0.76%</b>	<b>104,097</b>	<b>315</b>	<b>0.30%</b>	<b>0.46%</b>	<b>5,934</b>			



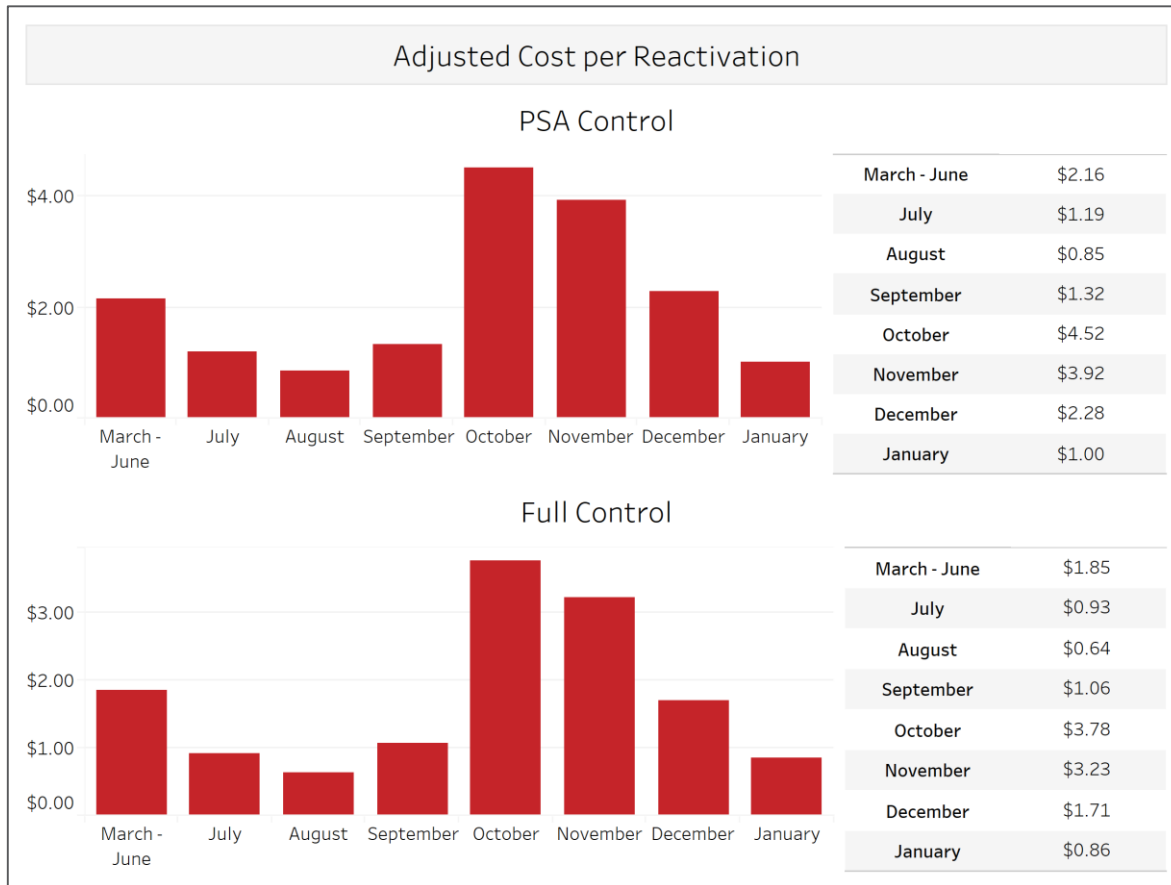
Measurement Window: March 21st – September 30th

- CPNC at \$35.57 for all Markets – **down from \$85**
- Lowest CPNC is \$26 in the South
- Highest CPNC is \$60 in the Midwest
- ROMI (\$3.06) was calculated using the “One Time Customer Spend” found in the Transaction file
- Market Trend Model outperformed Client Demo Model in overall Performance



# CRM RESULTS: Positive ROMI over \$141 to \$1 and lowered cost of reactivation to \$1

	Total Spend	Unique HH Impression	HH Conversion*	Conversion %	Control Type	Control Conversion %	Adjusted Conv Rate	Adjusted Conversions	Adj. Cost per New Customer	Adjusted Product Sale Price ROMI
	January	\$3,319	82,915	4,521	5.5%	PSA Control	1.5%	4.0%	3,311	\$1.00
					Full Control	0.80%	4.65%	3,858	\$0.86	\$164



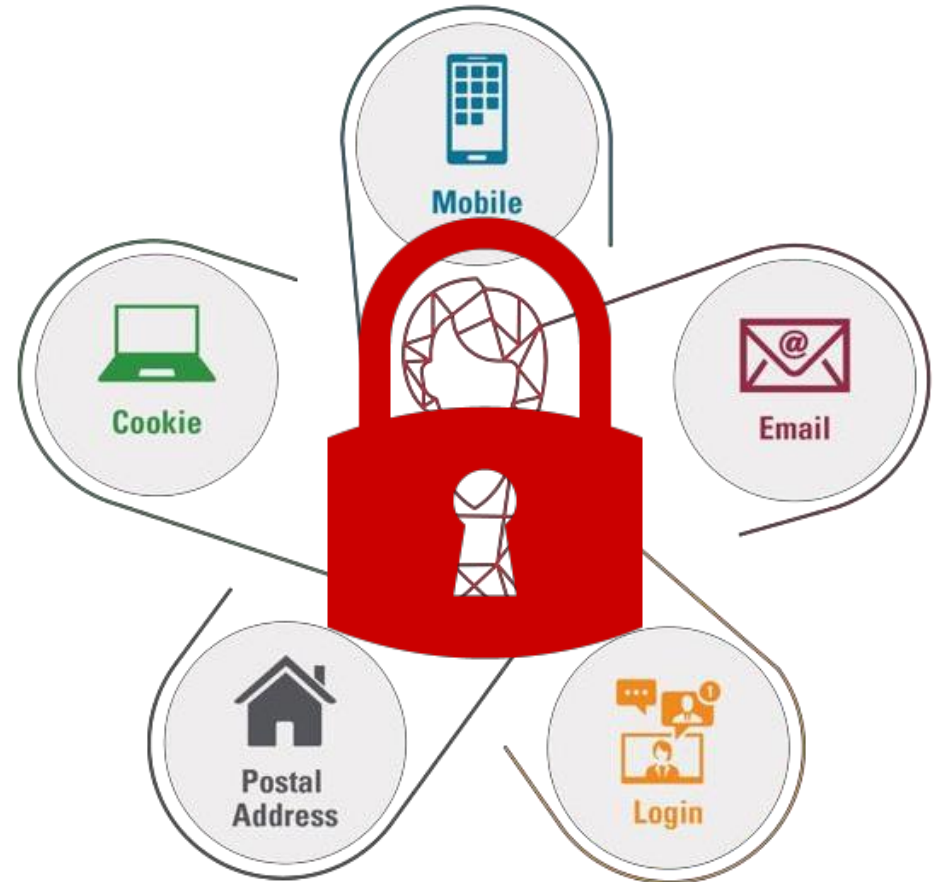
### Measurement Window: January 1 to January 31st

- PSA Control is 1.8x the Full Control
- ROMI was calculated by aggregating the “Product Sale Price” of all transactions made by customers attributed to the display campaign during the measurement window
- Product Sale Price per Customer was \$141



# The channels configured in a Privacy Safe way

- Use of anonymous IDs
- Obscuring of PII and customer data
- Avoid the annoying factor
- National regulation compliance
- Oracle is the leader within industry self-regulatory bodies



A modern, industrial-style interior with a grey sofa, a wooden coffee table, and a wooden partition wall. The room features large windows on the left, a patterned armchair, and a wooden partition wall in the center. The ceiling has exposed pipes and hanging lights. The floor is made of dark wood.

Thank you for your time.

Ray Owens, Founder and CEO

DX Marketing, [rowens@dxmgrp.com](mailto:rowens@dxmgrp.com)

Thank You!