INVENTORY AND CUSTOMER SEGMENTATION

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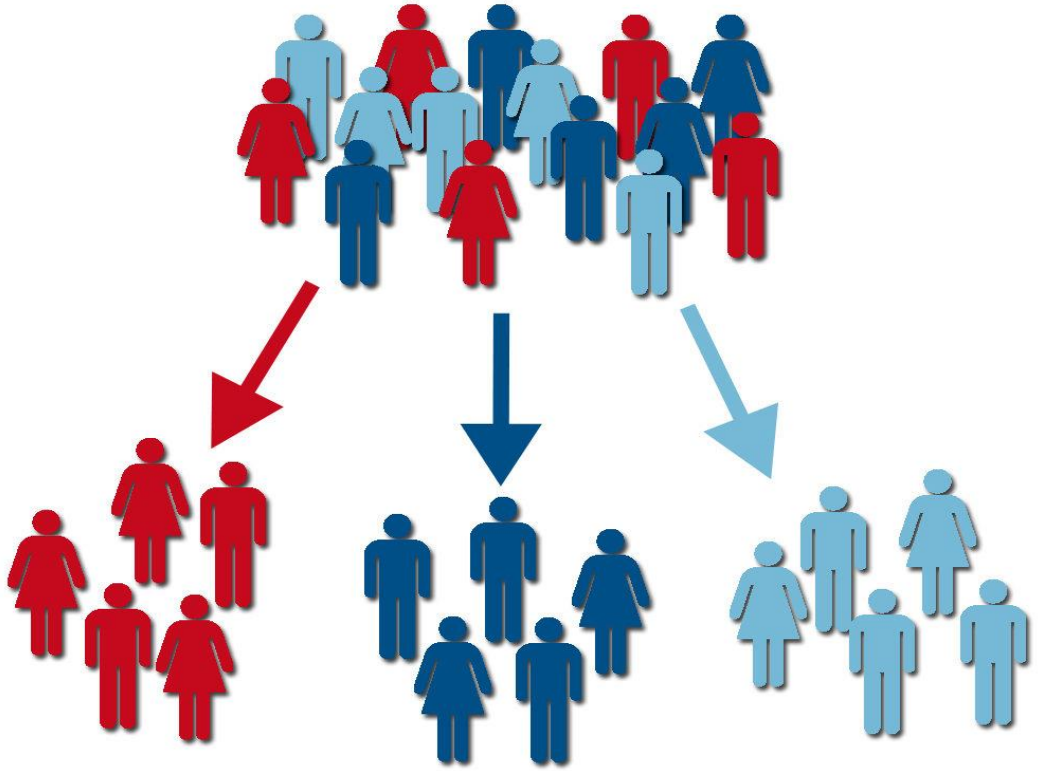


AGENDA

- Assumptions
- Brief
- Inventory Segmentation
- Data Visualizations
- Customer Segmentation
- Data Visualizations
- Recommendations & further scope

OUR INTENT


Who We Are?
Solution Consultants
Focus :INDUSTRIAL DISTRIBUTION
Why We Do
Identify Best Customer Segmentations
Optimize Inventory Management
How We Did
Statistical Programing
Knowledge Gathering
Data Modelling
RFM Technique
Cluster Study
Descriptive Analytics

ASSUMPTIONS

- Industrial Distributors with the purpose of Inventory optimization and warehouse space optimization.
- All transactions and all items in an invoice are independent of each other
- For each invoice and Stockcode, the combination is unique
- Removed transactions with Ext Cost as zero
- February 29, 2018 converted to March 1, 2018 (This was not non-leap year)

DATA-BRIEF ON XYZ INDUSTRIAL DISTRIBUTOR DATA

Why are we doing this project?

- Inventory Segmentation

- **WHAT ?**
  - Segmented Inventory to understand the products and their associated revenue

- **WHY ?**
  - Resource Allocation
  - Inventory Optimization

- **HOW ?**
  - ABC Analysis
  - Product Grouping

DATA-BRIEF ON XYZ INDUSTRIAL DISTRIBUTOR DATA

Why are we doing this project?

- Customer Segmentation

- **WHAT ?**
  - It is the practice of dividing a customer base into groups of individuals that are similar in specific ways.

- **WHY ?**
  - Customer Targeting
  - Customer Retention

- **HOW ?**
  - RFM Analysis
  - K-means Clustering

INVENTORY SEGMENTATION

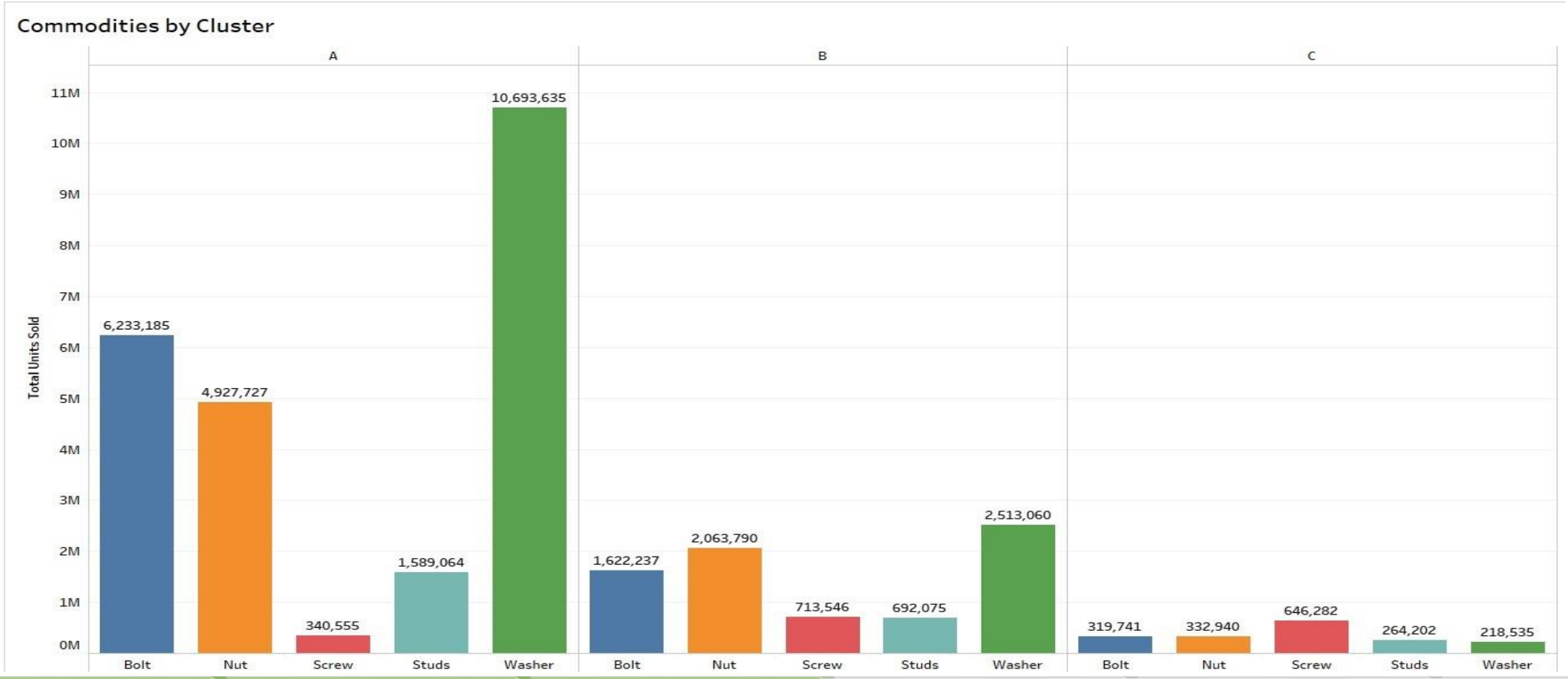
A 70% of sales is generated by ~15% of total commodities

B 25% of sales is generated by ~27% of total commodities

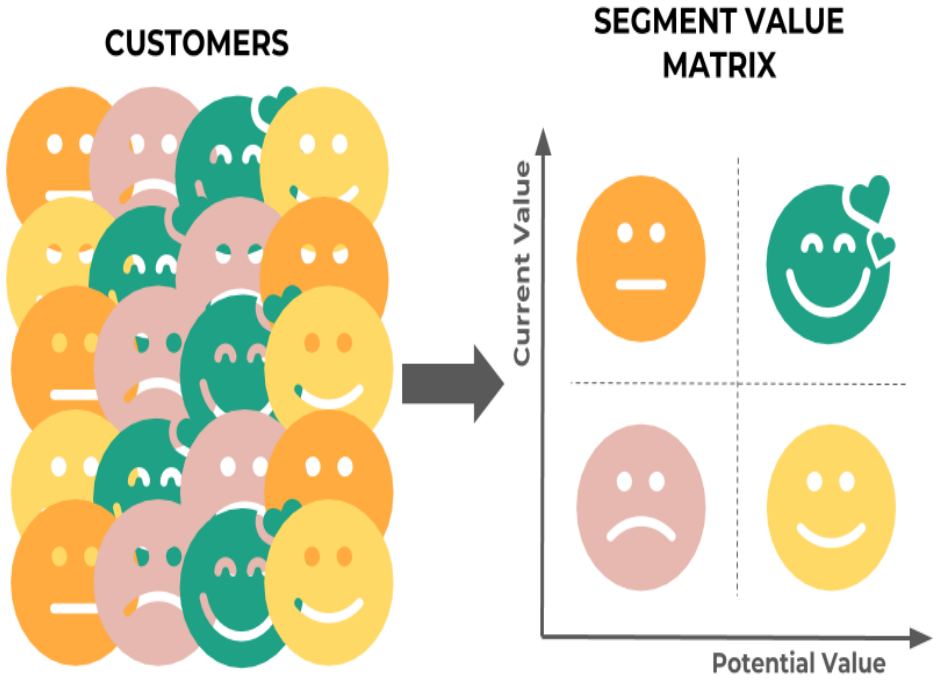
C 5% of sales is generated by ~58% of total commodities

INVENTORY SEGMENTATION

INVENTORY SEGMENTATION

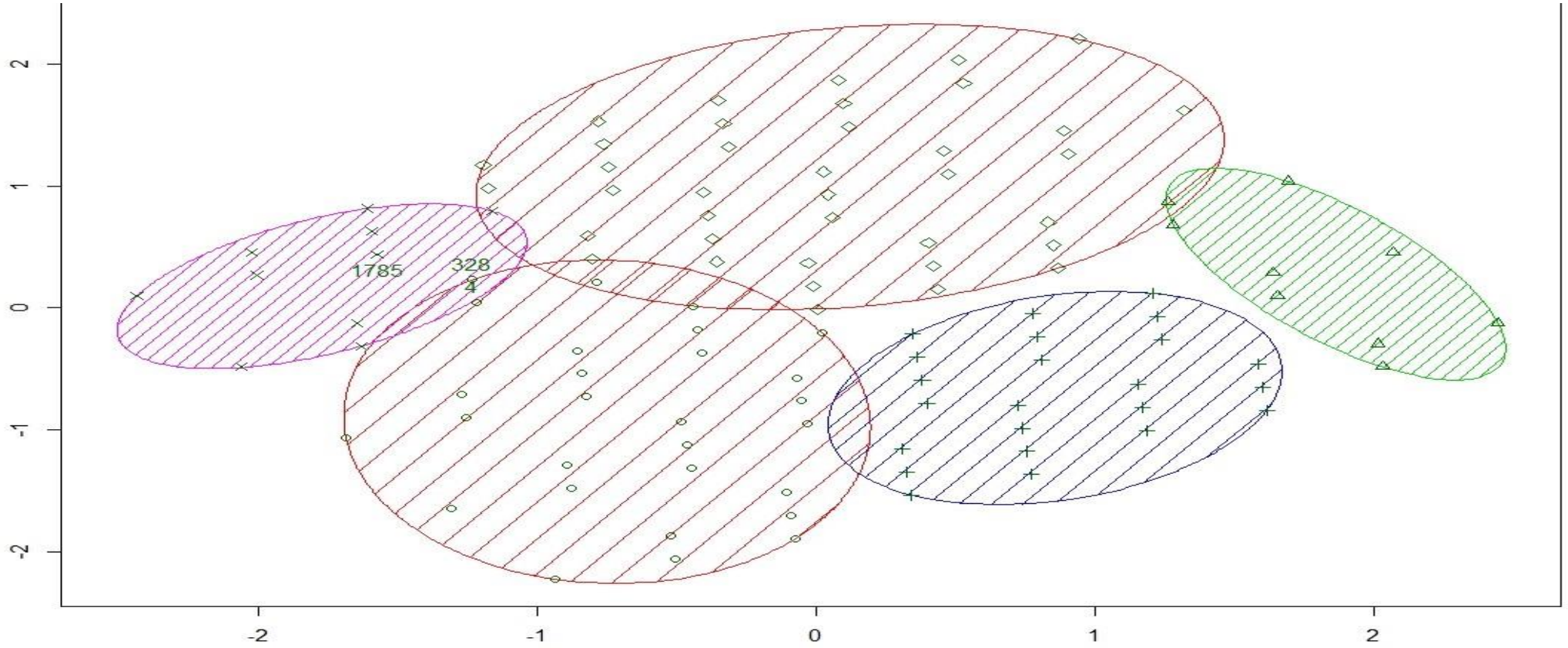


CUSTOMER SEGMENTATION

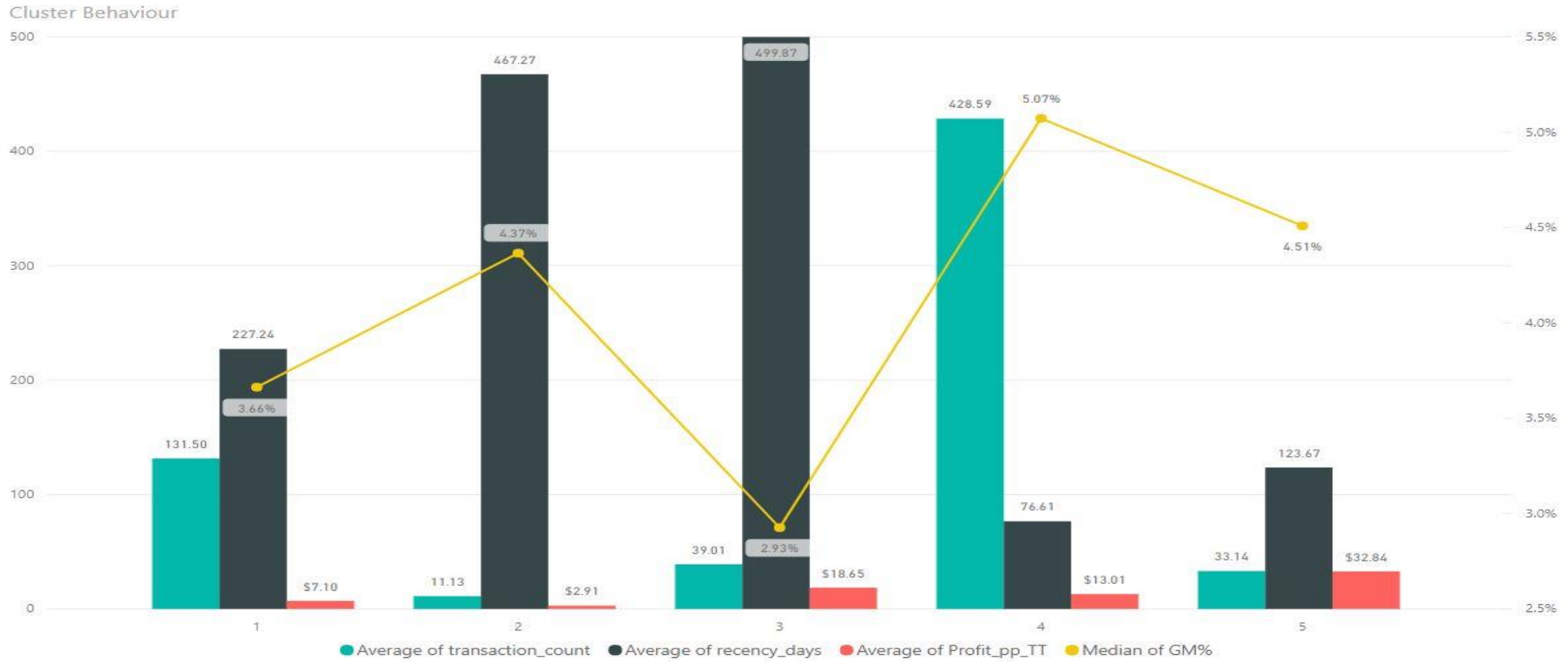


- **CUSTOMER SEGMENT CATEGORIES**
  - High Value
  - Loyal
  - Critical
  - Lost

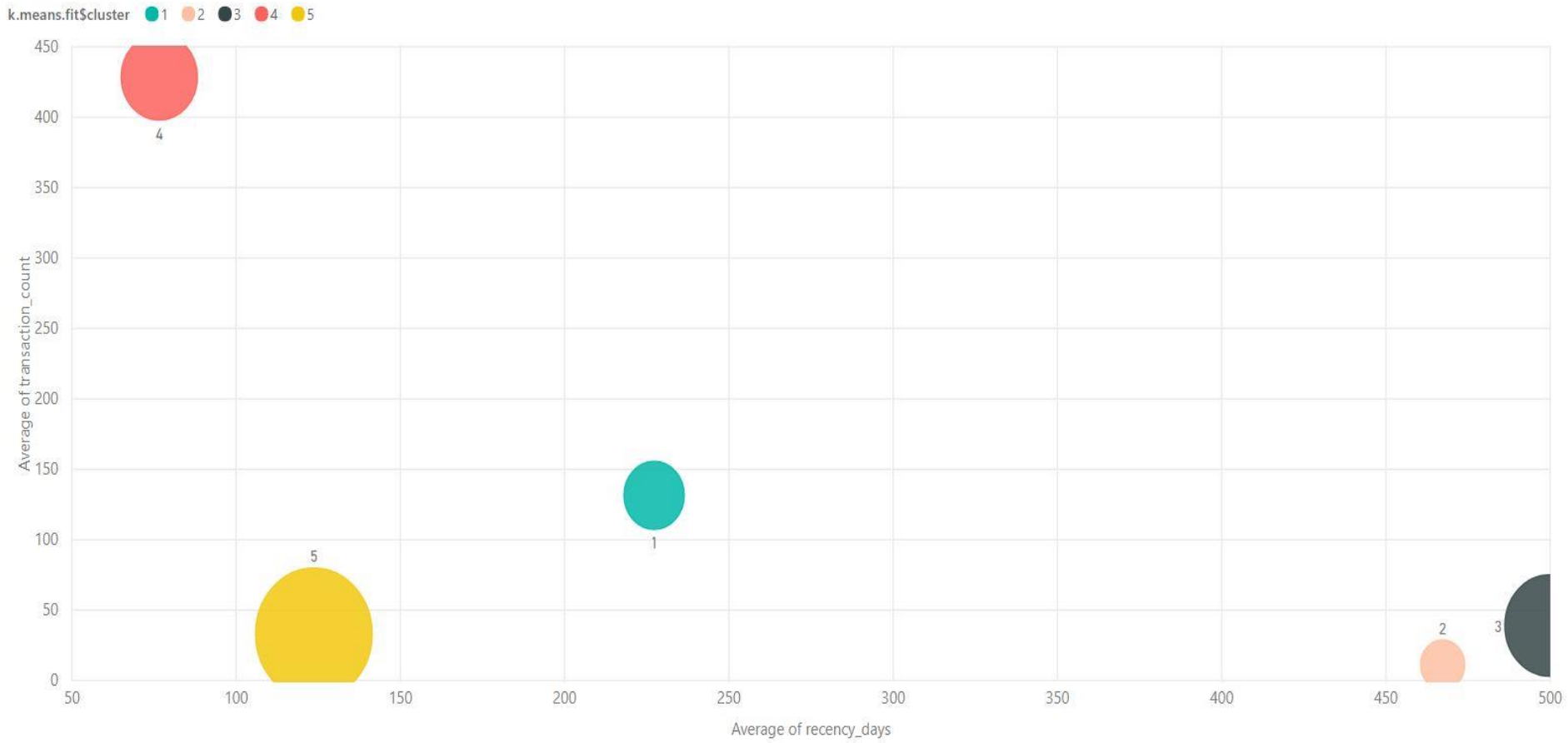
CUSTOMER SEGMENTATION



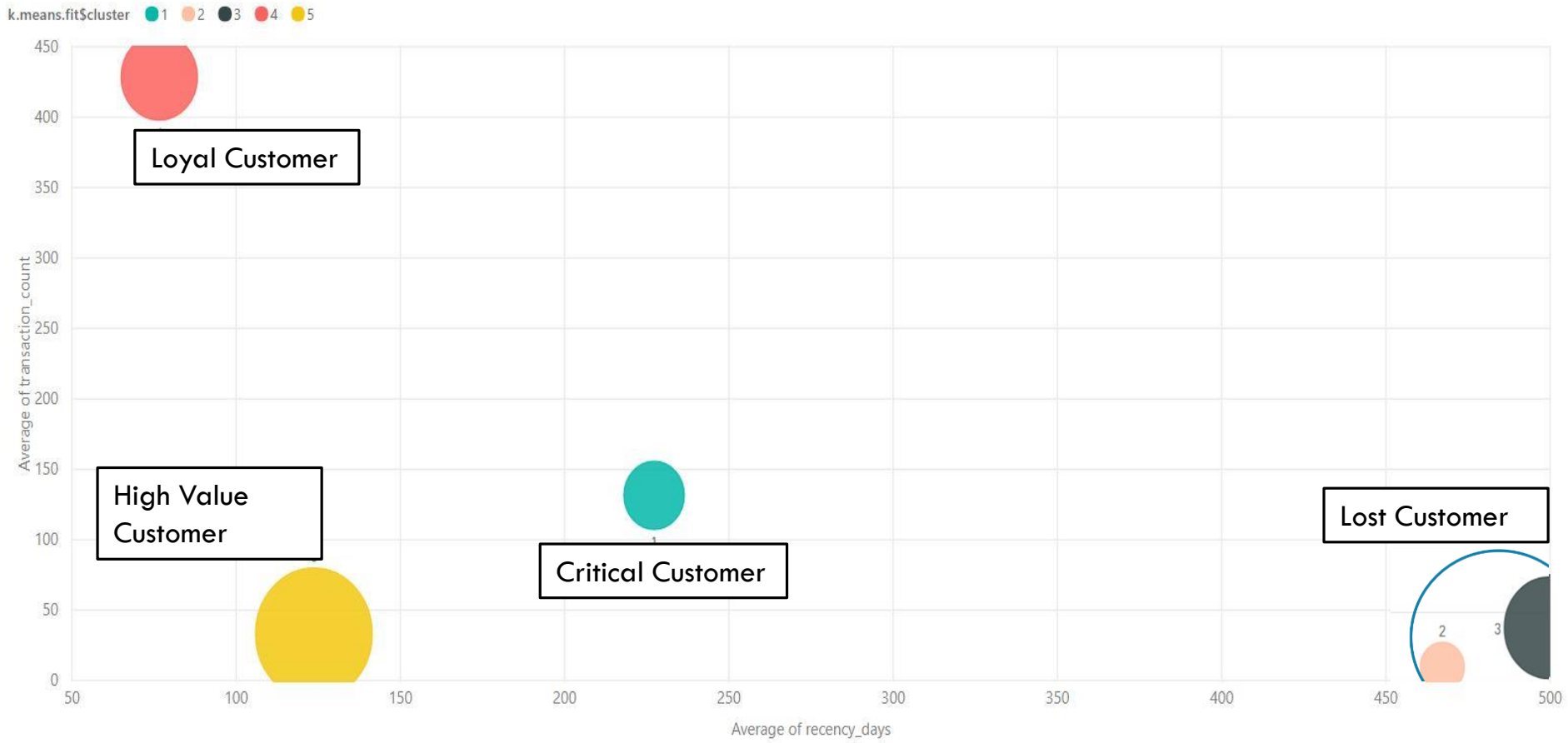
CUSTOMER SEGMENTATION



CUSTOMER SEGMENTATION



CUSTOMER SEGMENTATION



SUMMARY FINDINGS

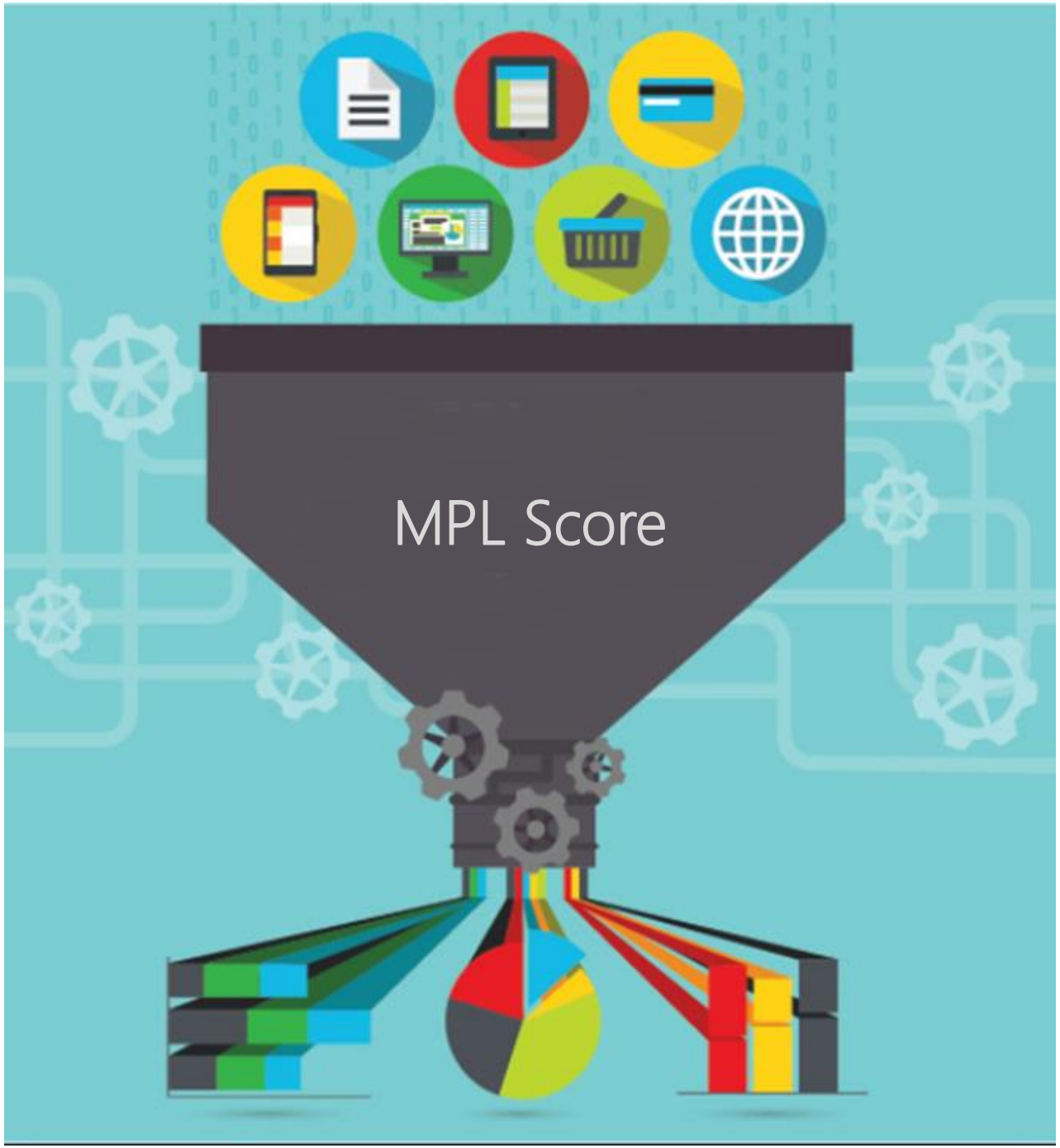
- Inventory Segmentation

Segments	% Quant	% Sales	SKU Major Content
A	15	70	Washer, Bolt
B	27	25	Washer, Nut
C	58	5	Screw, Nut

- Customer Segmentation

Segments	No. of Customer	Avg Recency Days	Avg Transaction Count	Median GM %
High Value	773	155	27	6.80%
Loyal	1178	85	366	7.12%
Critical	996	308	90	6.30%
Lost	1198	487	16	6.82%

QUESTIONS?



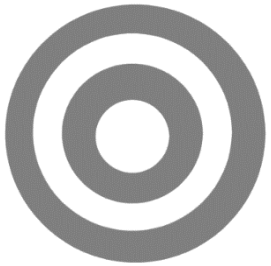
CUSTOMER

SCORING SYSTEM

Our Intent

What We Do?

Developing Scoring mechanism to identify customer behaviour



Why We Do?

Identifying Dynamic behaviour

LRFM Technique

MPL Scoring

How We Did?

Understanding Customer Behaviour

Customer Targeting

OUR BIG IDEA

Dynamic Scoring System which can help distributer to target potential buyer/customer, more ***efficiently and effectively***

MPL Customer Scoring

Figuring Out the Potential buyers

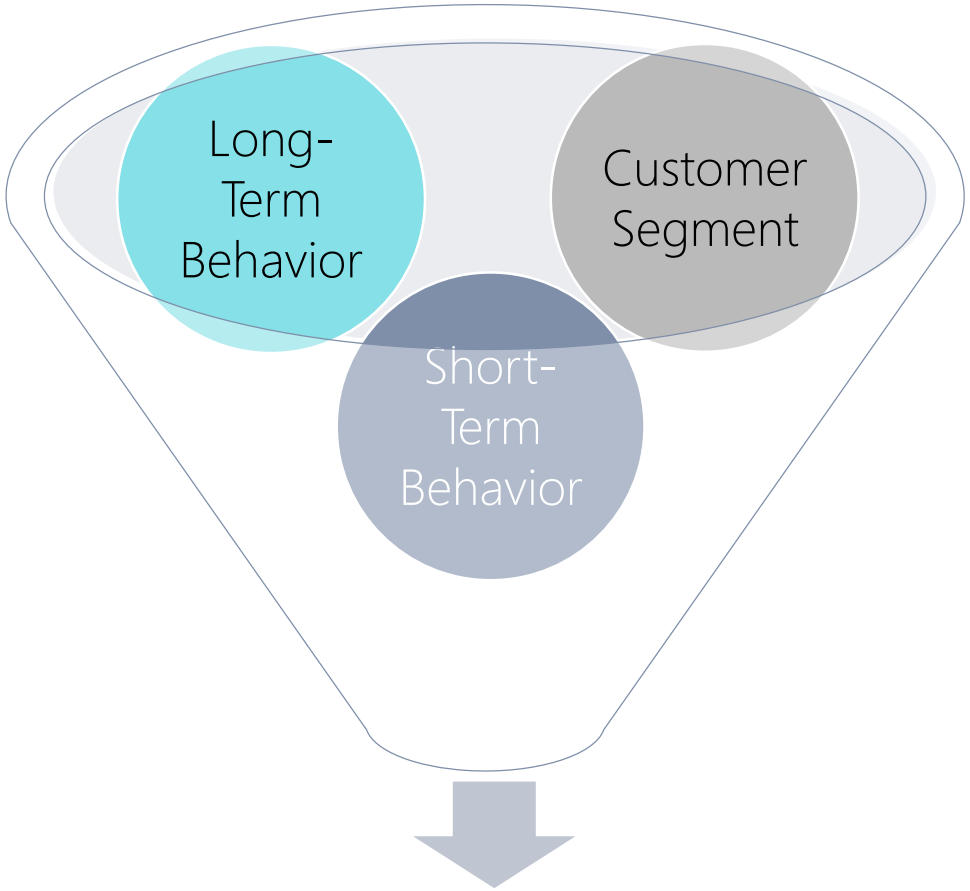
Identify & target leads that need nurturing

Refining marketing messages

Evaluation and scaling of the Leads

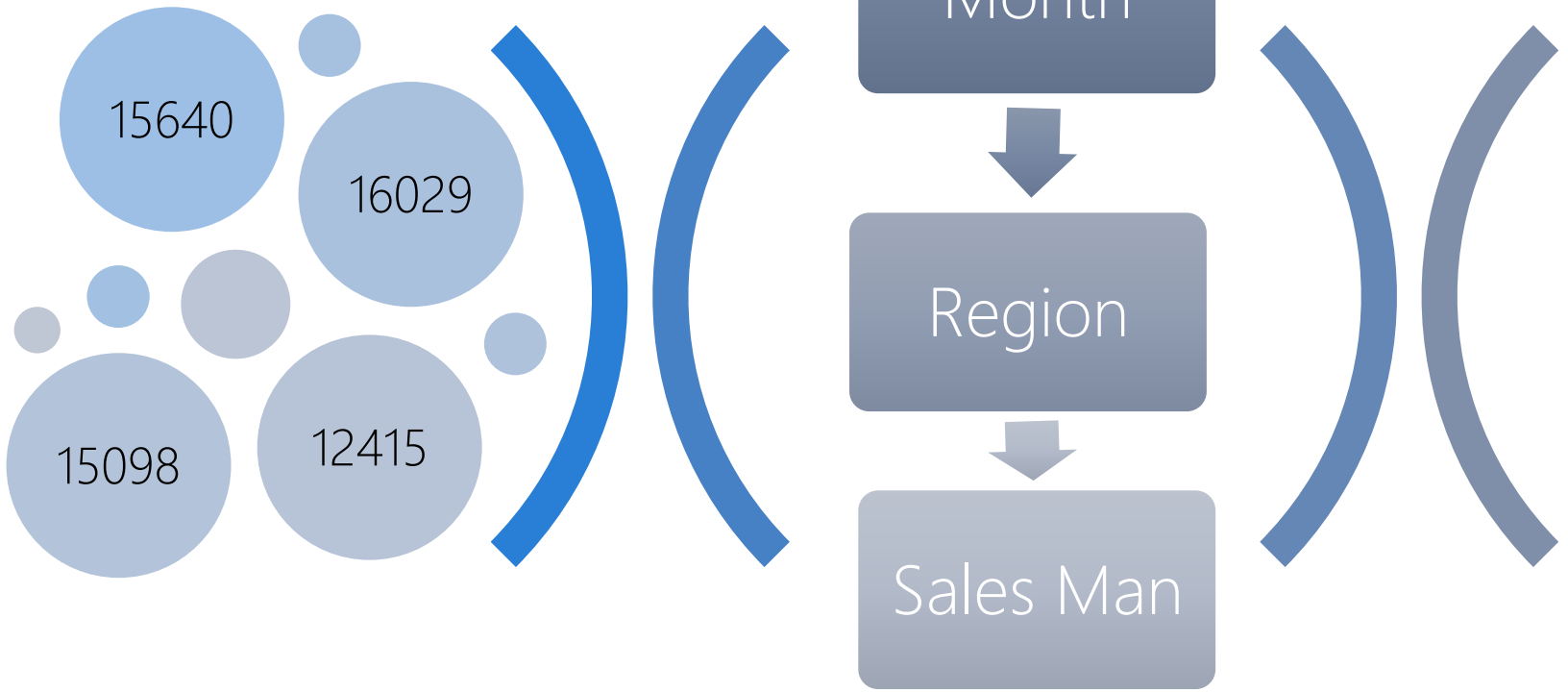
Making Sales Team More Productive

MPL Customer Scoring



MPL Score

MPL Customer Scoring



Customer I	score
12346	966
14646	661
14911	641
12748	466
13145	408
14849	389
17450	385
12386	348
13531	347
17739	346
14896	346
17227	346

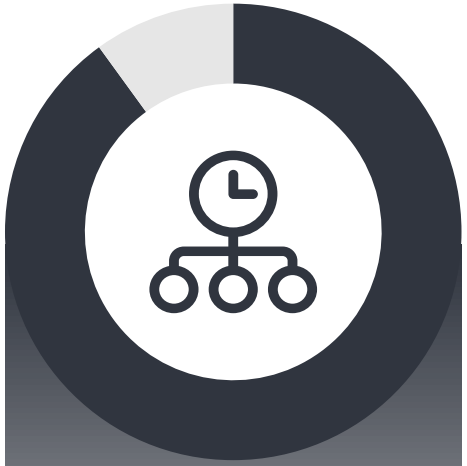
Un-scored Customer IDs

Selection

Refined & Scored Cust ID

MPL Scoring benefits

BETTER SALES CONVERSION



Tailored customer engagement is expected to increases sales by

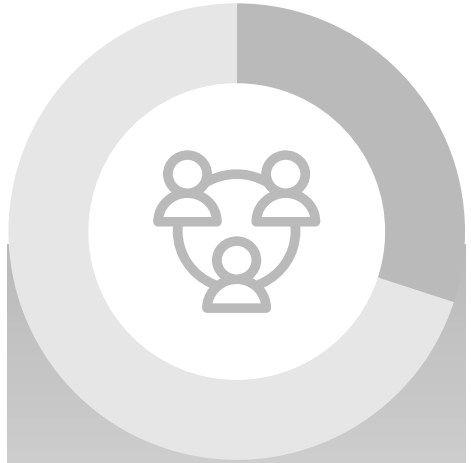
15%*

MARKETING COST SAVINGS

Focused customer targeting advt. shall save marketing cost up to

80%

CUSTOMER ENGAGEMENT



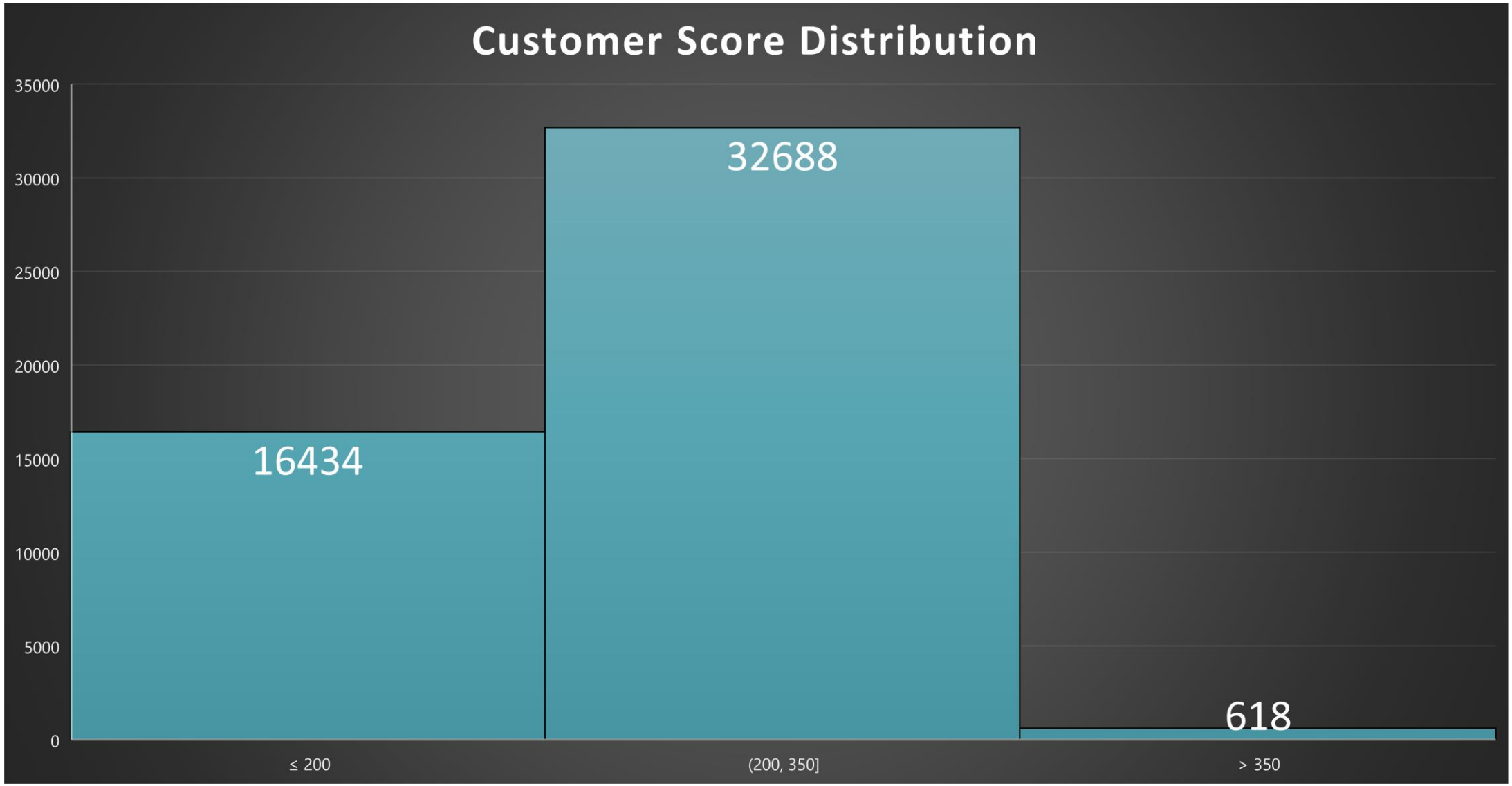
Better & improved Customer engagement shall boost by up to

90%

* Estimated sales based on assumptions

THANK YOU

Appendix – Cust IDs Score Distribution



INVESTMENT OPPORTUNITY

GROUP 8

OUR BIG IDEA

*We will develop an efficient Inventory plan & an effective Marketing campaign to Target **Ideal Customer**, using **SMART D-MPL Scoring App** and make money by Boosting **Profitable Sales***

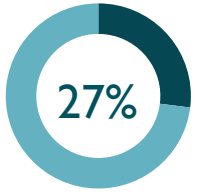
THE MARKET: Segment Reiteration

Product Inventory Segmentation

A Cluster

75% Sales

Pivotal, Augment Capacity



B Cluster

20% Sales

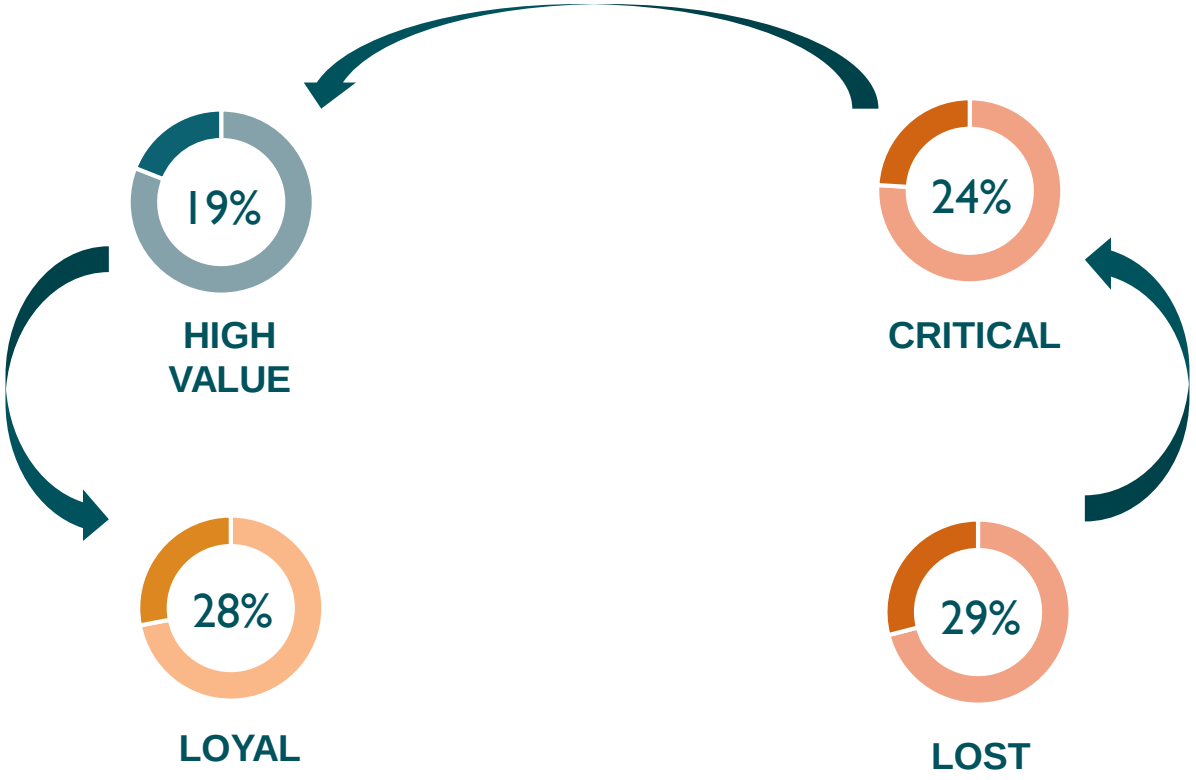
Strategic Increment

C Cluster

5% Sales

Reduce & shift to On-demand Sales

Customer Segmentation



INVESTMENT DISTRIBUTION

INVENTORY TURNAROUND

$500,000 - 10%

****Marketing AI Scoring APP***

$3,000,000 – 60%

MARKETING BOOSTER

1,500,000 - 30%

**SMART DYNAMIC-MONTHLY PREDICTIVE LEAD SCORING APP*

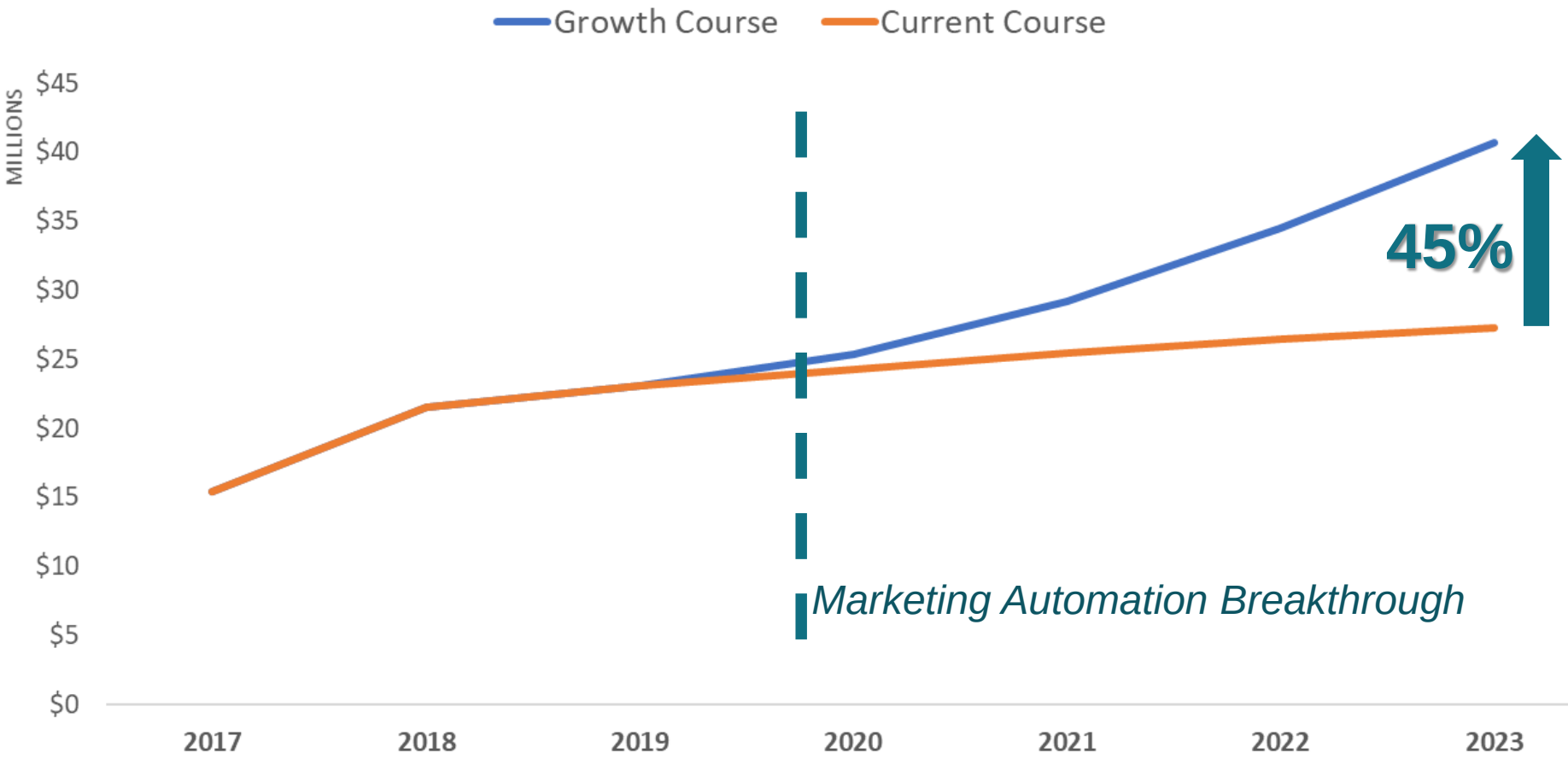
Marketing automation drives a 14.5% increase in sales productivity and a 12.2% reduction in marketing overhead.

-Nucleus Research

63% of survey respondents indicate that the ability to set measurable objectives for each of their campaigns is the biggest value of driver of marketing automation.

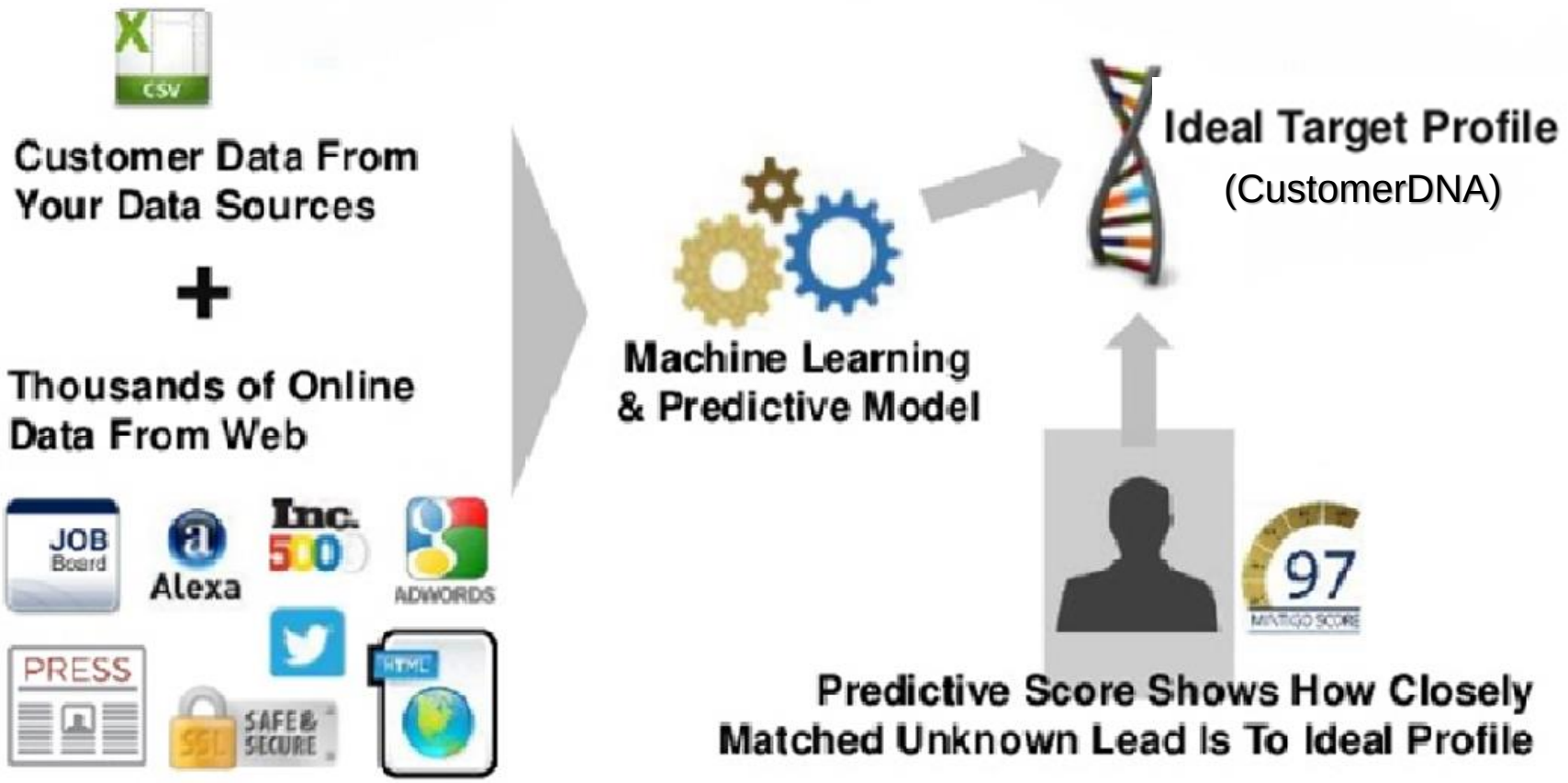
-Gleanster

SALES GROWTH FORECAST



Internal Rate of Return (IRR)

SMART DYNAMIC-MONTHLY PREDICTIVE LEAD SCORING APP



+20%

IN SALES OPPORTUNITIES

Nurtured leads produce, on average, a 20% increase in sales opportunities versus non-nurtured leads.

-DemandGen Report

+451%

IN QUALIFIED LEADS

Businesses that use marketing automation to nurture prospects experience a 451% increase in qualified leads.

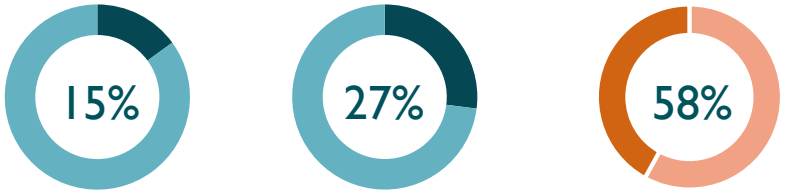
-The Annuitas Group

THANK-YOU


Reliability
Process
AUTOMATION
Technology
Productivity
Innovation
Repeatability
System

Appendix: Dynamics

Product Segmentation

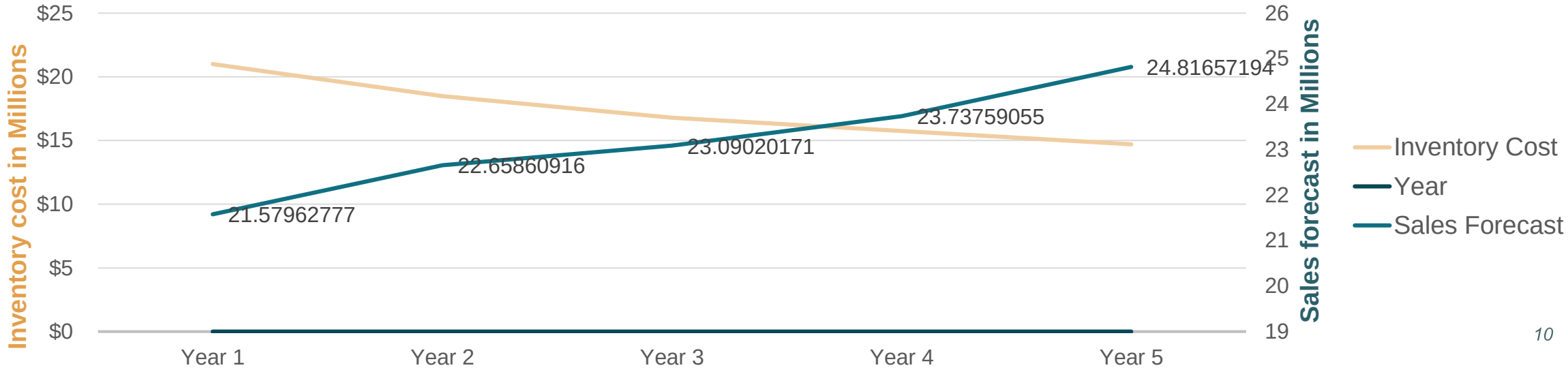


75% Sales | 20% Sales | 5% Sales

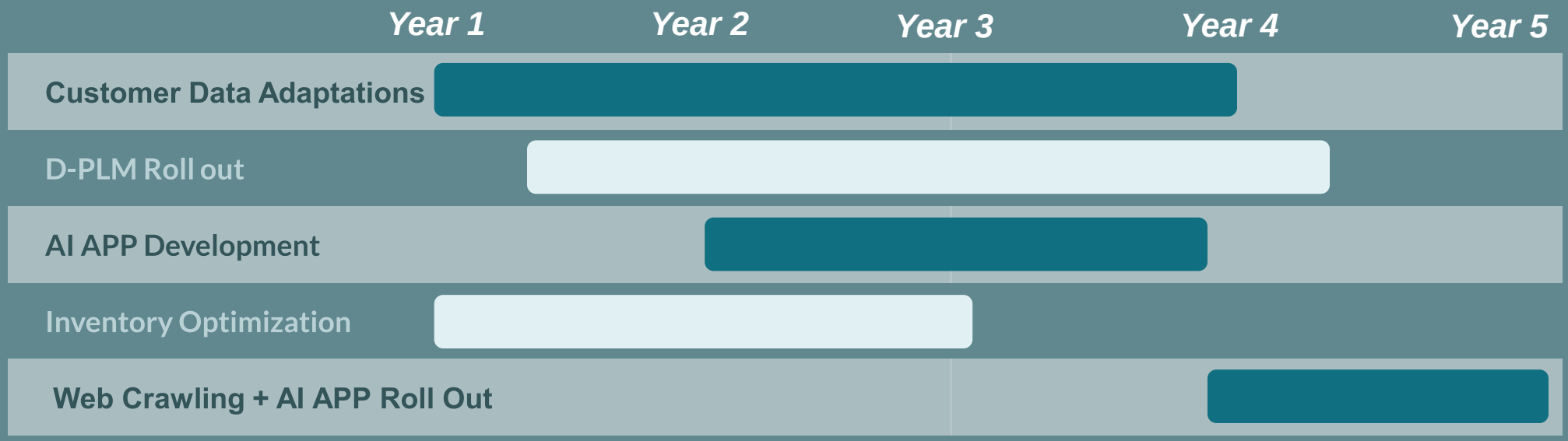
Customer Segmentation

HIGH VALUE | LOYAL | CRITICAL | LOST

SUCCESS FORECAST

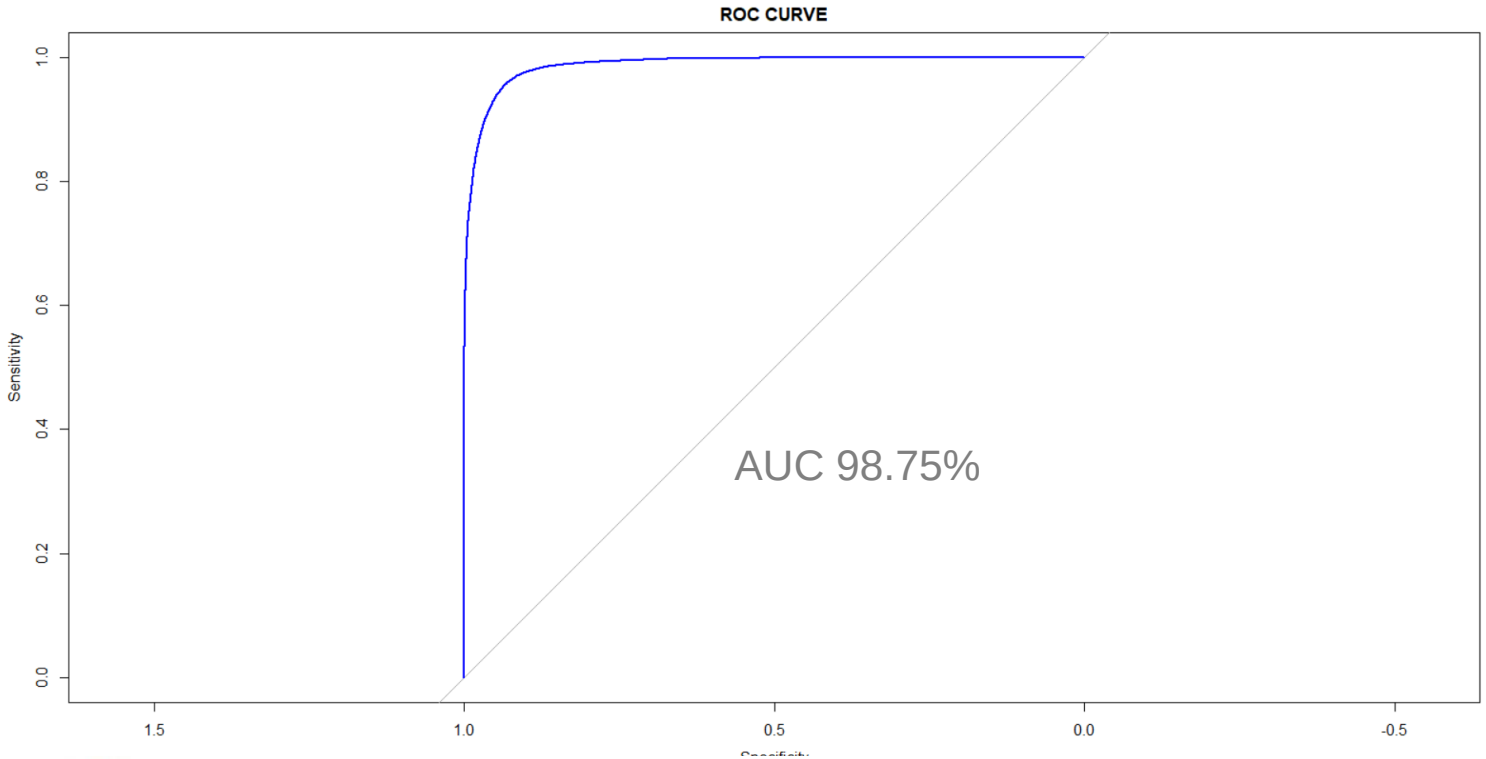


Appendix: KEY TIMELINE GOAL



Appendix: Regression Results

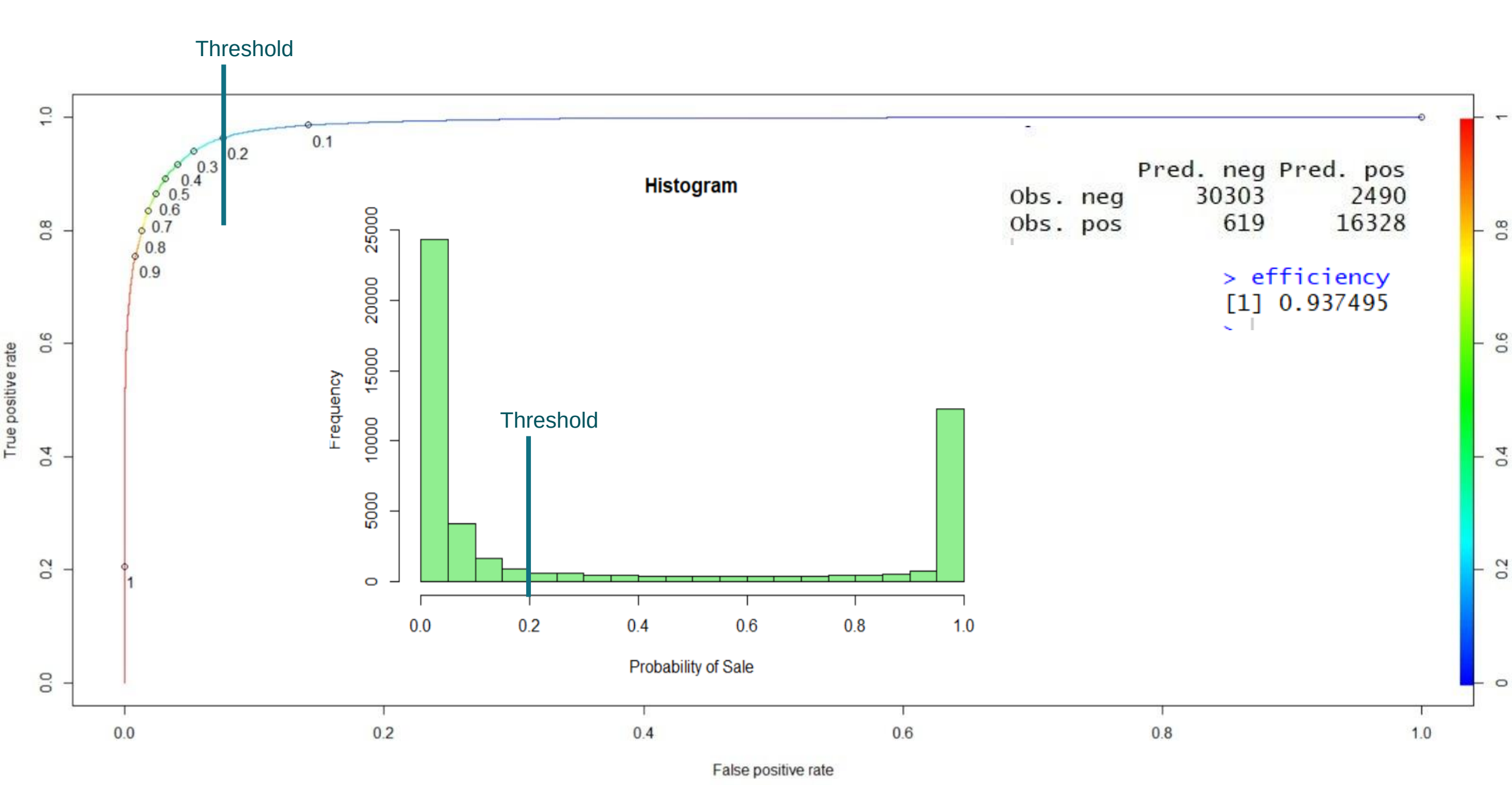
```
Coefficients:
                  Estimate Std. Error z value Pr(>|z|)
(Intercept)     -4.150e+00  3.161e-01 -13.132  < 2e-16 ***
Month.1AUG       2.101e+00  1.078e-01  19.483  < 2e-16 ***
Month.1DEC      -1.277e+00  1.571e-01  -8.130 4.29e-16 ***
Month.1Feb       1.058e+00  1.151e-01   9.190  < 2e-16 ***
Month.1Jan       8.646e-02  1.394e-01   0.620  0.53513
Month.1JUL       3.342e-01  1.108e-01   3.017  0.00255 **
Month.1JUN      -1.777e-01  1.147e-01  -1.549  0.12129
Month.1MAR       1.095e+00  1.142e-01   9.584  < 2e-16 ***
Month.1MAY       2.763e-01  1.152e-01   2.398  0.01650 *
Month.1NOV       1.470e+00  1.127e-01  13.047  < 2e-16 ***
Month.1OCT       1.353e+00  1.095e-01  12.365  < 2e-16 ***
Month.1SEP       1.444e+00  1.090e-01  13.241  < 2e-16 ***
Trans_per_Month  8.593e-01  1.129e-02  76.078  < 2e-16 ***
Avg.GM.          1.687e-02  1.389e-03  12.140  < 2e-16 ***
Recency_Days    -5.591e-03  4.507e-04 -12.407  < 2e-16 ***
Trans_Count     -5.399e-04  2.095e-04  -2.577  0.00996 **
Sales            1.098e-06  6.333e-07   1.735  0.08279 .
Recency_score2   3.317e-01  1.729e-01   1.919  0.05504 .
Recency_score3   9.936e-02  2.174e-01   0.457  0.64762
Recency_score4  -6.277e-01  2.438e-01  -2.574  0.01004 *
Frequency_score2 -4.920e-01  7.828e-02  -6.285 3.28e-10 ***
Frequency_score3 -8.801e-01  1.254e-01  -7.020 2.23e-12 ***
Frequency_score4 -1.104e+00  1.427e-01  -7.738 1.01e-14 ***
Monetary_score2  1.385e+00  1.034e-01  13.396  < 2e-16 ***
Monetary_score3  1.940e+00  1.140e-01  17.017  < 2e-16 ***
Monetary_score4  2.448e+00  1.300e-01  18.832  < 2e-16 ***
fit.cluster2     9.706e-02  1.551e-01   0.626  0.53142
fit.cluster3    -9.845e-02  1.119e-01  -0.880  0.37905
fit.cluster4     1.480e-01  9.302e-02   1.591  0.11155
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1
```




```
Call:
roc.formula(formula = Sales_binary ~ logit_2$fitted.values, data = data_1,     plot = TRUE, main =
"ROC CURVE", col = "blue")

Data: logit_2$fitted.values in 32793 controls (Sales_binary 0) < 16947 cases (Sales_binary 1).
Area under the curve: 0.9875
```

```
glm(formula = Sales_binary ~ Month.1 + Trans_per_Month + Avg.GM. +
    Recency_Days + Trans_Count + Sales + Recency_score + Frequency_score +
    Monetary_score + fit.cluster, family = binomial, data = data_1)
```


Threshold
True positive rate
False positive rate
0.0
0.2
0.4
0.6
0.8
1.0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
Histogram
Frequency
0
5000
10000
15000
20000
25000
Threshold
Probability of Sale
Pred. neg Pred. pos
Obs. neg 30303 2490
Obs. pos 619 16328
> efficiency
[1] 0.937495

Appendix: Use Of Funds

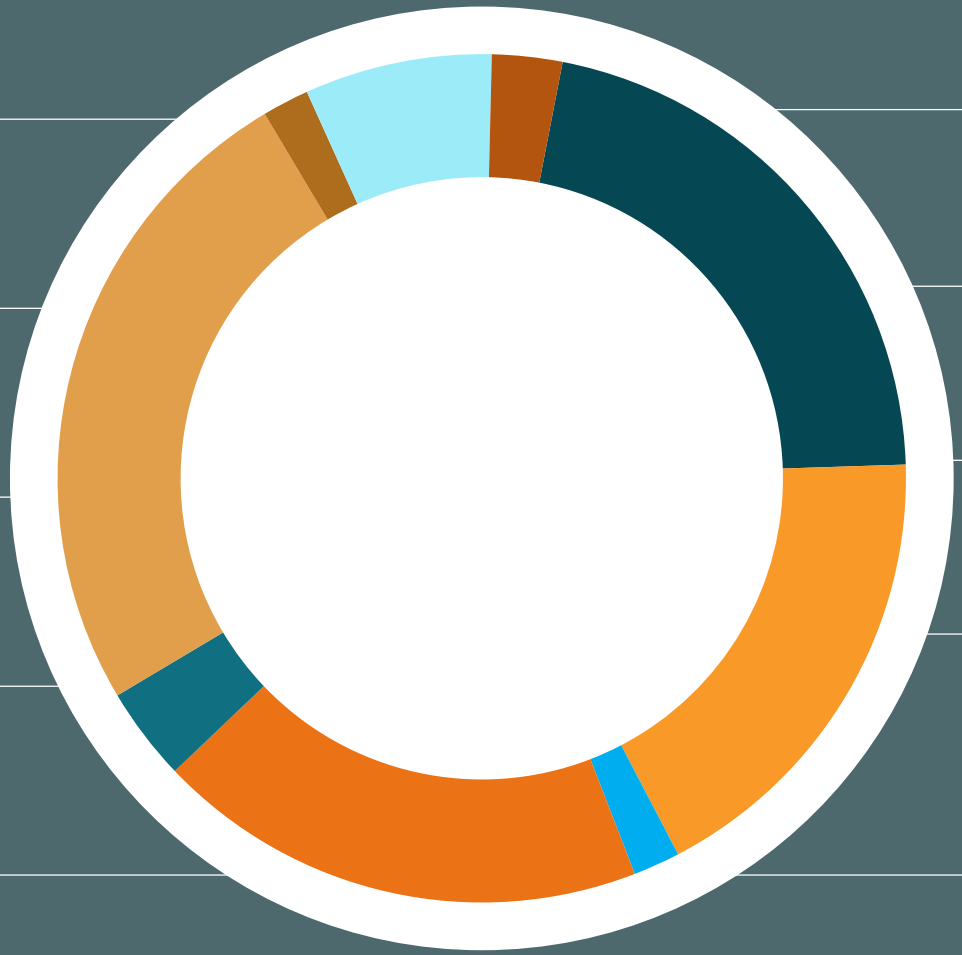
MISCELLANEOUS COSTS
$X%

WEBSITE DEVELOPMENT
$X%

WORKING CAPITAL
x%

MARKETING
X%

EQUIPMENT
X%



INITIAL COST
X%

RESOURCE COST
X%

FF&E
X%

IMPROVEMENTS
X%

PROFESSIONAL BUSINESS COST
x%