

CRISA

SEGMENTING CONSUMERS
OF BATH SOAP



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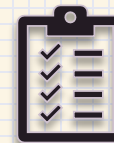
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Data Preparation



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The Project

- Background of the Company
- The Key Problem





Objectives

The primary objective is...

- ❑ Segment market based on Purchase Behaviour and Basis of Purchase
- ❑ Develop a model to classify clients as value conscious or not. The model will be used to mail the promotion.

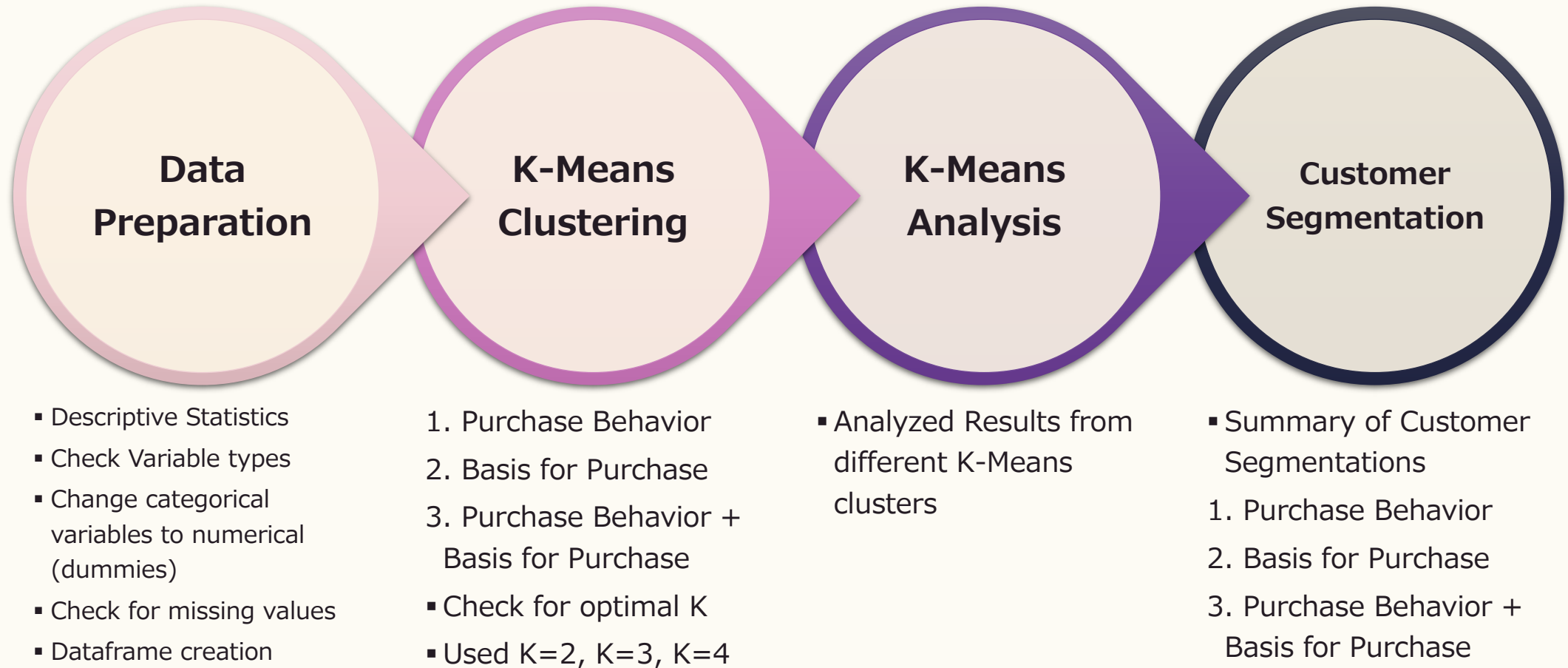




PART 1:

CUSTOMER SEGMENTATION

METHODOLOGY



Classification of Variables



Demographic Indicators

- SEC: Socio Economic Class
- FEH: Eating Habits
- MT: Native Language
- SEX: Gender
- AGE : Age of Homemaker
- EDU: Education
- HS: # of Household members
- CHILD: # of Children in the house
- CS: Television Availability
- Affluence Index



Brand Indicators

- No. of Brands
- Brand Runs
- Total Volume
- No. of Trans
- Value
- Trans / Brand Runs
- Vol / Trans
- Avg. Price
- Br.Cd. 55, 272, 286, 24, 481, 352, 5, and 999 (others)



Behavior Indicators

- Price Cat 1 to 4: % of volume purchased under the price category
- Proposition Cat 5 to 15: % of volume purchased under the product proposition category



Purchase Indicators

- Pur Vol
- No Promo %
- Pur Vol Promo 6%
- Pur Vol Other Promo %



Purchase Behaviour (KM-2)



The Power Purchaser
Alex, 45

DEMOGRAPHICS



Owens a house in the city center complete with all amenities, Owns one or more cars



A Regional Director in an IT Firm and has a top notch income



Married with 2 children



Graduated from a University with a Master's Degree

PURCHASE BEHAVIORS INDICATORS



Buys any item without looking at the price tag.



Purchases regular sized items that is enough for what they need.



Have the luxury of time to shop at his convenience



He has a lot of brands to choose from. He doesn't seem to stick to a lot of brands but instead get whatever he feels like getting.



Budget Buyer
Greg, 40

DEMOGRAPHICS



Rents a house in the suburbs. Takes the public transportation to work. Owns the basic gadgets at home



Admintrator in a corporate office



Married with 3 children



Graduated from the community College

PURCHASE BEHAVIORS INDICATORS



Fits in the amount of purchases within budget



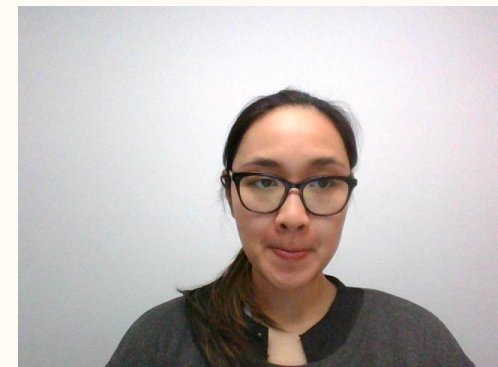
Purchases a lot of smaller sized items



Goes to the supermarket once 1-3x a week to get basic needs



Sticks to the same brand. Do not venture to other brands due to budget constraints.



Basis of Purchase (KM-4)



Wheeler Dealer

Michael, 43

DEMOGRAPHICS



Owns a 2-storey house in a subdivision in a large city. Owns at least one car.



Works as an Investment banker and have high disposable income.



Lives with his wife and 3 children.



Have completed a Masters degree in Finance & Accounting.

BASIS OF PURCHASE INDICATORS



He would occasionally grab discounted items.



Grabs some seasonal deals from when available.



Consistently purchases items that are relatively high in price.



Conscious Consumer

Christine, 39

DEMOGRAPHICS



Lives in a single detached home near the city. Have an access to a vehicle.



Works as a Marketing Executive in a leading firm and gets paid well.



Married and lives with her husband and 3 children.



Have a completed a bachelor's degree in Business and Administration.

BASIS OF PURCHASE INDICATORS



Would subscribe to emails and take advantage of discounts.



Always on the look out for seasonal deals.



She is a conscious buyer and buys across different price categories.



Practical Purchaser

Ramon, 36

DEMOGRAPHICS



Resides in a smaller town with his family. Owns a family car.



Engineer in a Production Plant. Have extra money to spare.



He's newly married with 1 toddler and a baby.



Finished his degree in Engineering and currently upgrading his skills with a short course.

BASIS OF PURCHASE INDICATORS



Is not keen into looking for discounts but would try it once in a while.



Takes advantage of seasonal deals.



Consumes products that are middle ranged price but also indulges to luxurious items once in a while.



Budget Basic

Kathy, 35

DEMOGRAPHICS



Rents an apartment near her workplace.



A Store Manager in a retail company. Have some allowance to spend on some months.



She lives with 2 of her children.



Has a diploma from her college.

BASIS OF PURCHASE INDICATORS



Seldom gets discounted items. Would prioritize basic needs.



Regularly buys items that have some kind of proposition.



Sticks in the same price category.

Purchase Behaviour + Basis of Purchase (KM-3)



*Social
Spender*
KEVIN, 40

DEMOGRAPHICS



He owns a single-detached house in a large city. Owns a family car and a sports car.



Young entrepreneur. He is his own boss.



He studied in an ivy league university and is continuously adding skills to his resume.



He's married and has 3 young children.

PURCHASE BEHAVIOR+ BASIS OF PURCHASE INDICATORS



Purchases less volume but with high value items. Shops frequently.



Frequents the retail shops whenever he likes it.



Have some brand loyalty but can be swayed due to availability of other options to him.



Takes advantage of the Discounts occasionally



Gets promotional items when given the chance



Purchases are mostly priced high and some on the middle-ranged priced products



*Diverse
Striver*
Tracy, 39

DEMOGRAPHICS



Leases a condominium in the city center.



An Interior Designer who works for a firm.



She's married and have 2 children.



She studied interior design as a second career.

PURCHASE BEHAVIOR+ BASIS OF PURCHASE INDICATORS



She gets a large quantity of averagely high to middle-ranged value items



She goes to retail shops to get what she needs on a regular basis.



Have some brand loyalty but also can be swayed as they can afford to experiment on other brands



Avoids the discounts when available.



On the look out for items in a with similar deals or promotions.



Purchases are mostly middle-ranged products with occasional purchases on expensive goods.



*Loyalty
for Less*
Simon, 35

DEMOGRAPHICS



Rents a house just outside the city.



He works as an office clerk



He's single and has 3 children who lives with him



He graduated with diploma in the community college.

PURCHASE BEHAVIOR+ BASIS OF PURCHASE INDICATORS



Purchases low value items with a large volume.



He goes to the retail shops on a weekly basis.



Very loyal to brands. Trying out other brands may be costly to them.



Uses discounts when able.



Regularly purchases items with similar promotions.



Limits purchases on the most cost-effective category.

FREE

FREE BATH LOOFAH
WHEN YOU PURCHASE
(1) 3-PACK VARIANT

Limit 1 coupon per customer.
Not valid with any other promo.
Expires 03/22/22

\$5

BATH SOAP SET
(REGULAR: \$7)

Limit 1 coupon per customer.
Not valid with any other promo.
Expires 03/22/22



BATH SOAP

10% OFF

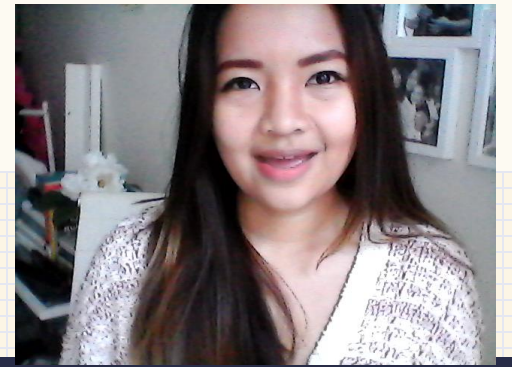
ALL BATH SOAPS

Limit 1 coupon per customer.
Not valid with any other promo.
Expires 03/22/22

20% OFF

ON SHOWER GELS

Limit 1 coupon per customer.
Not valid with any other promo.
Expires 03/22/22



PART 2:

**Predictive
Model**

Predictive Model Creation Process



Data Preparation

- Create binary variables
- Standardize dataframe

1 = Loyal	0 = Not Loyal
72	528

Build Logit Model

- Build logistic model with weights
- Adjust thresholds

Tree Classifier

- Optimized to have the best recall value

Model Evaluation

- Performance on test set
- Performance on validation set

Logistic model F1 Score

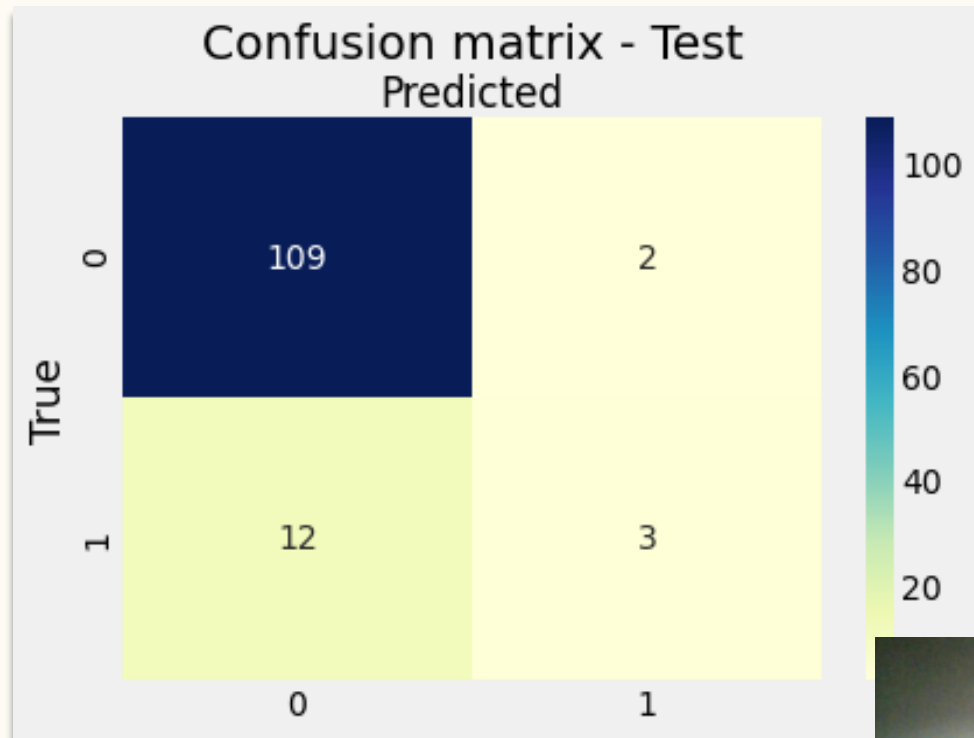
0.634

Tree classifier F1 Score

0.444

Confusion Matrix

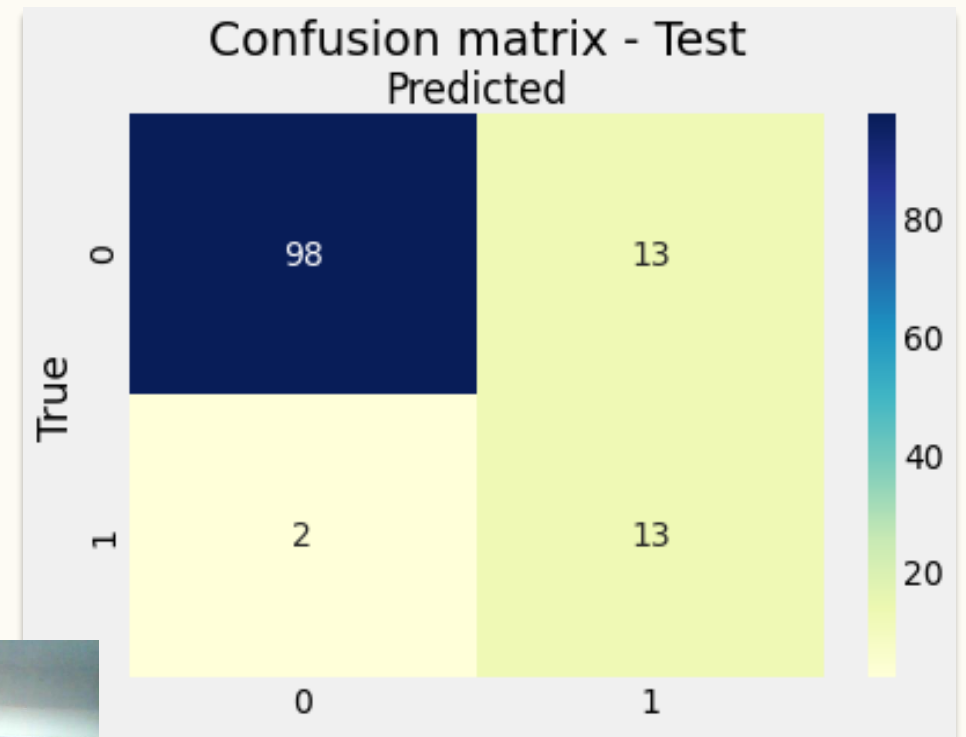
BEFORE ADJUSTMENTS



Precision	0.20
Recall	0.60



AFTER ADJUSTMENTS

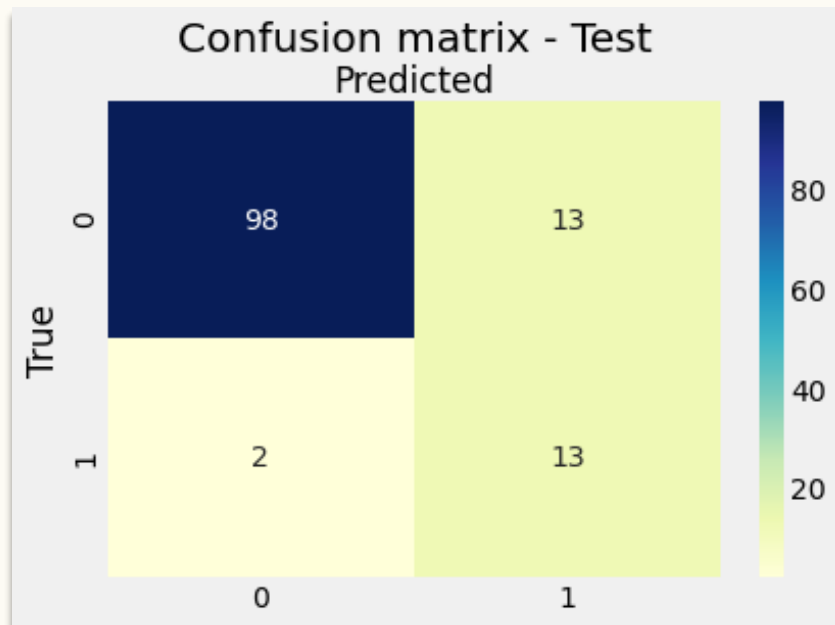


Precision	0.86
Recall	0.50



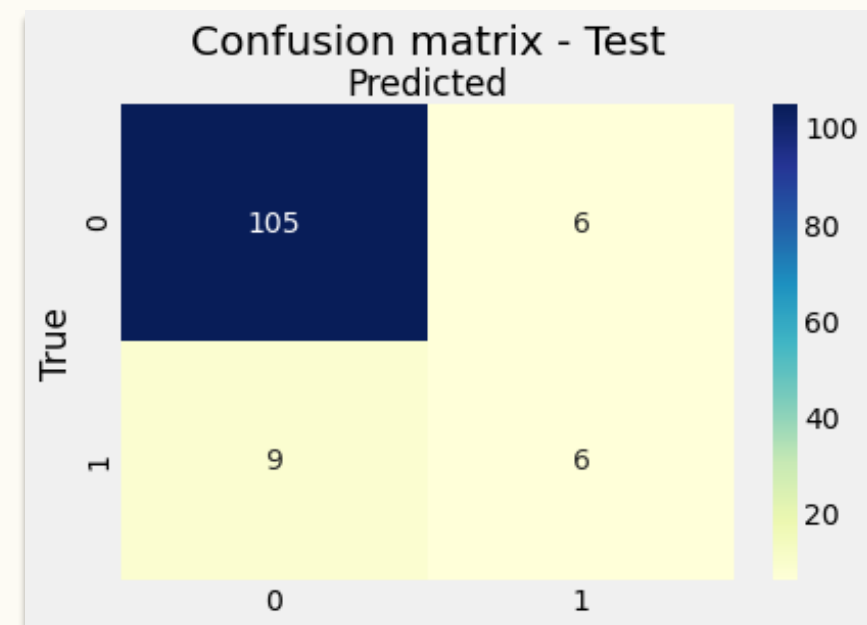
Confusion Matrix Comparison

LOGISTIC MODEL WITH
WEIGHTS



F1 Score	0.63
Precision	0.86
Recall	0.50

OPTIMIZED
TREE CLASSIFIER

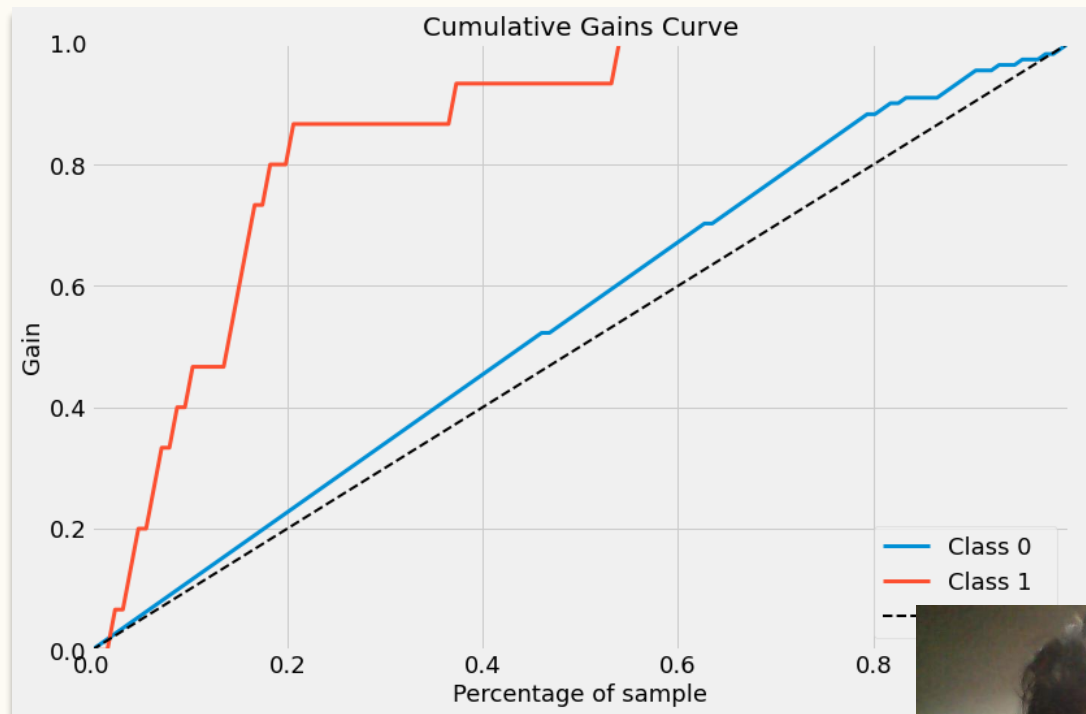


F1 Score	0.44
Precision	0.4
Recall	0.50

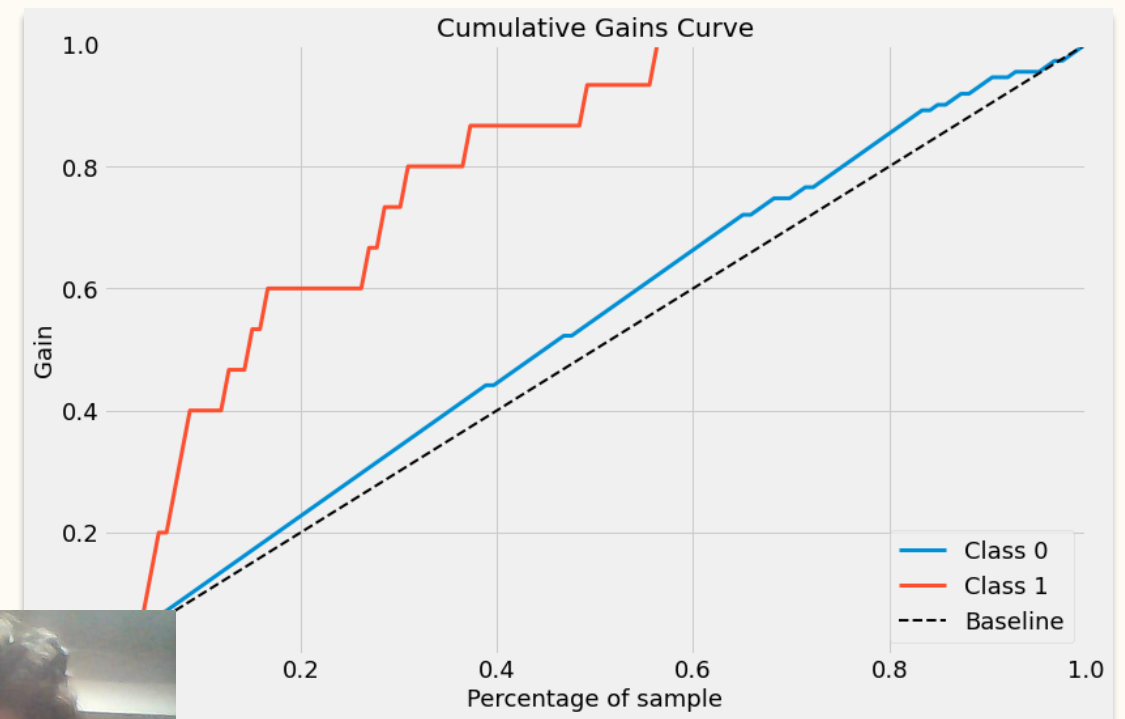


Gain Chart Comparison

LOGISTIC MODEL

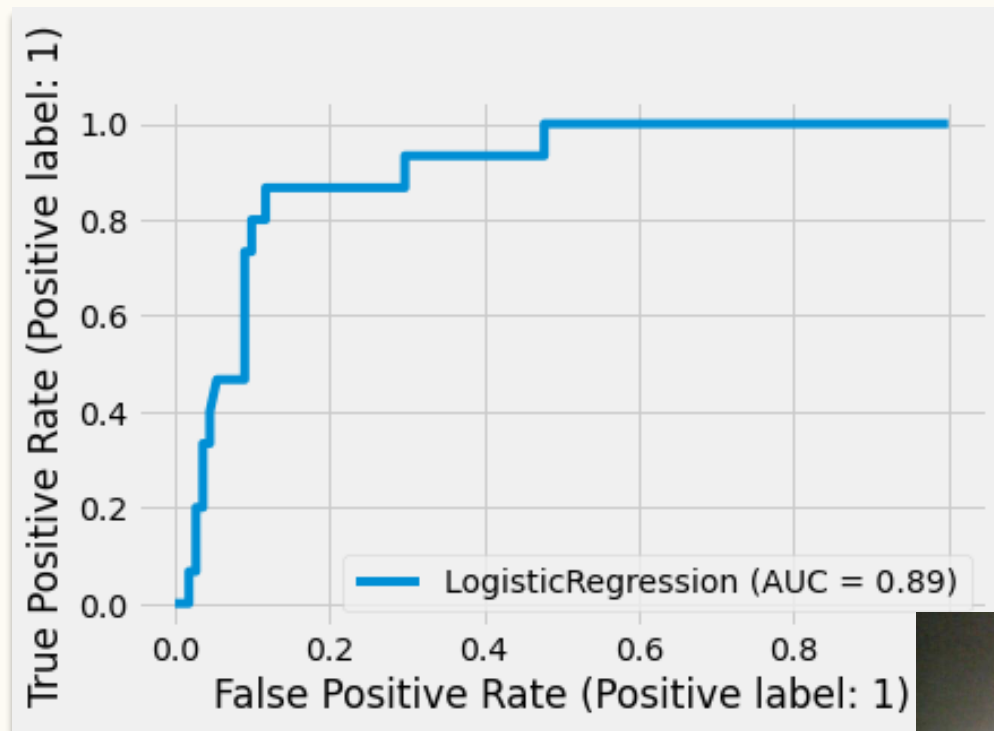


TREE CLASSIFIER



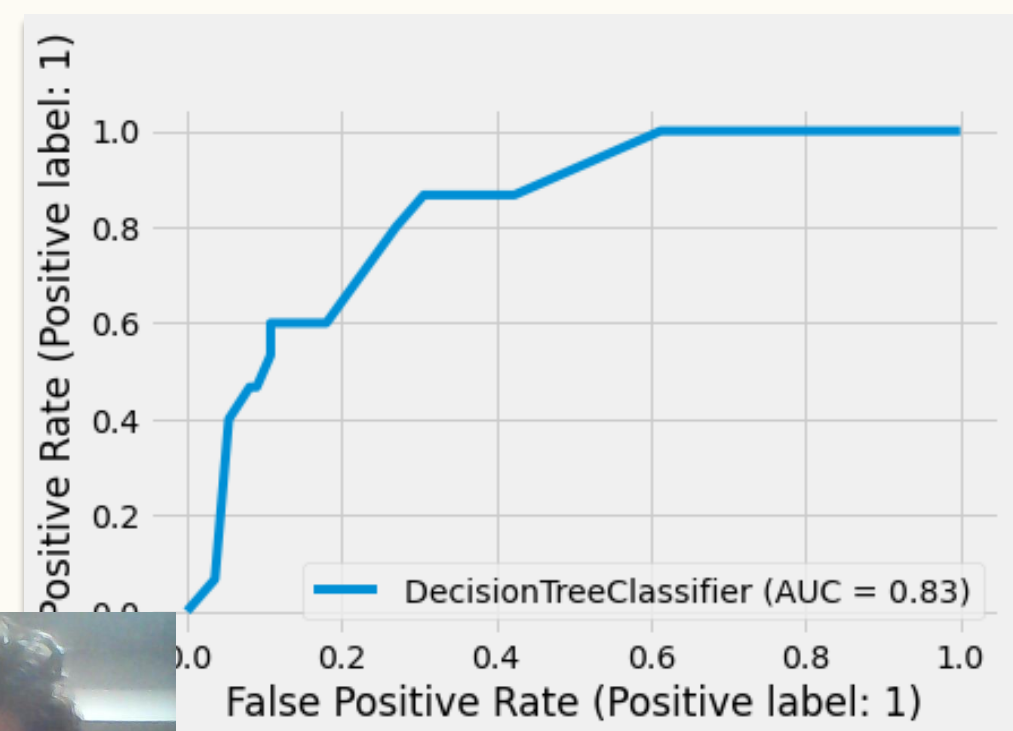
ROC Curve Comparison

LOGISTIC MODEL



AUC: 0.89

TREE CLASSIFIER

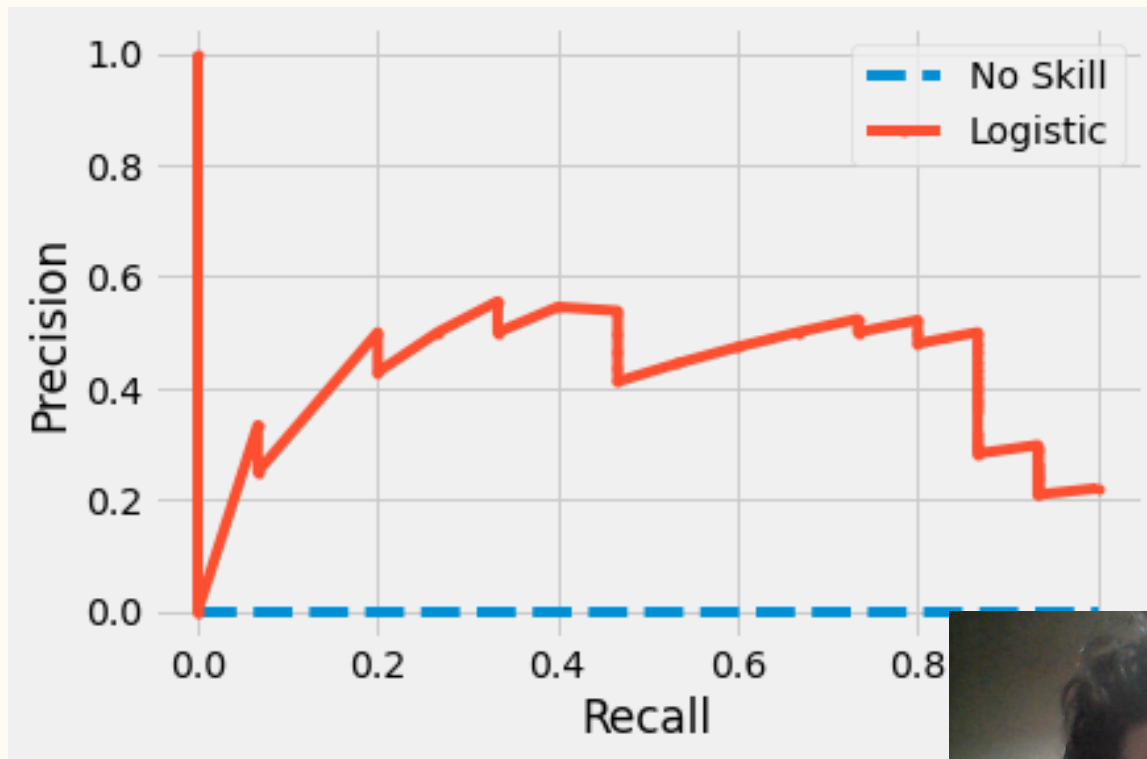


AUC: 0.83



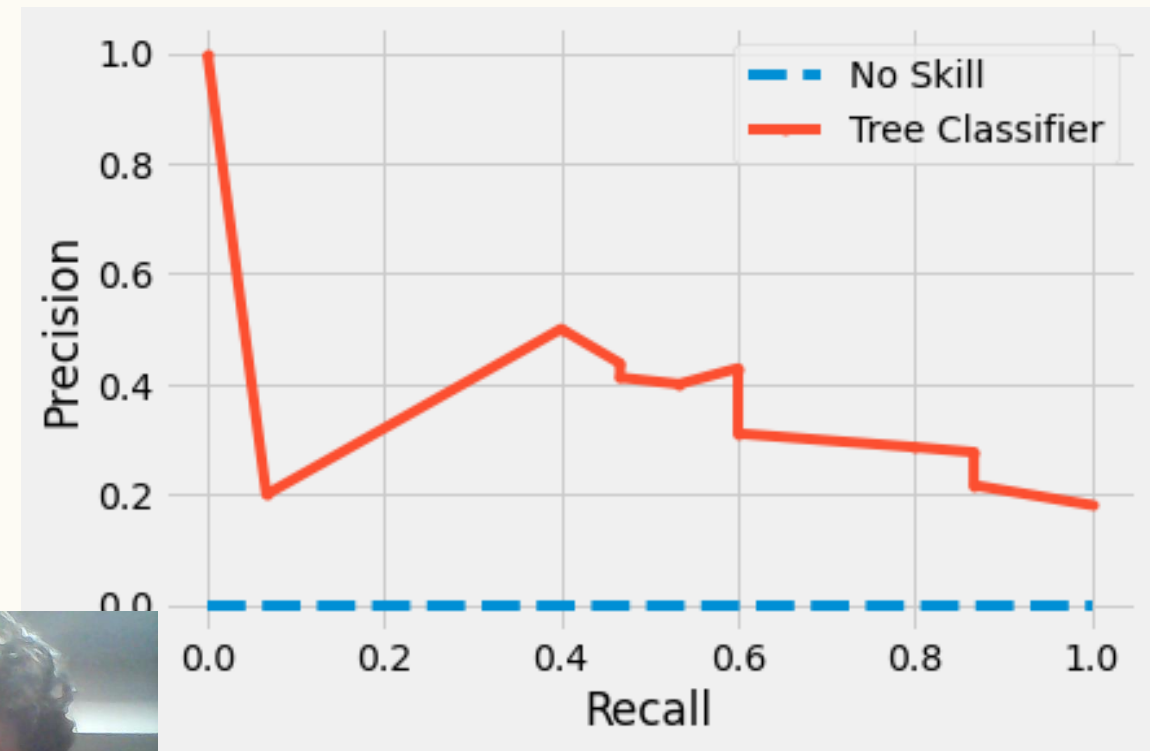
Precision/Recall Curve comparison

LOGISTIC MODEL



AUC: 0.63

TREE CLASSIFIER



AUC: 0.44



CONCLUSION



- Customer Segments
 - 2 segments based on purchase behaviour
 - 4 segments based on basis of purchase, and
 - 3 segments based on both purchase behavior and basis of purchase combined
- Multiple promotions at a given time that are appealing to different segments – so that every customer will have something they prefer on promotion
 - Price discounts – for Budget Buyers
 - BOGOF (Buy one get one free) - for Budget Basic
 - Bundle promotions – to promote slow moving brands, bundle them with others
 - Loyalty rewards such as air miles, discount to an expensive salon – for Power Purchases and Wheeler Dealers
 - Introduce a special loyalty card to Power Buyers and Social Spenders that comes with special benefits such as free parking



CONCLUSION



- Recommend a promotion strategy that is customized to the target segments to improve the ROAS while cutting down the cost of promotions we can improving customer satisfaction and loyalty
- We have a good predictive model - that helps to identify value conscious customers to whom we can offer discounts
 - If model predicts customers as '1' they are loyal customers, which means they are not very price conscious, but they prefer recognition
 - If model predicts customers as '0' they are not loyal customers, which means they are very price conscious price and quantity discounts will attract them
- Change the promotion strategy time to time over the cause of the year
 - Seasonal offers
 - Loyalty discounts



TEAM MEMBERS



Olusegun
Ajao



Ira Martina
Balmes



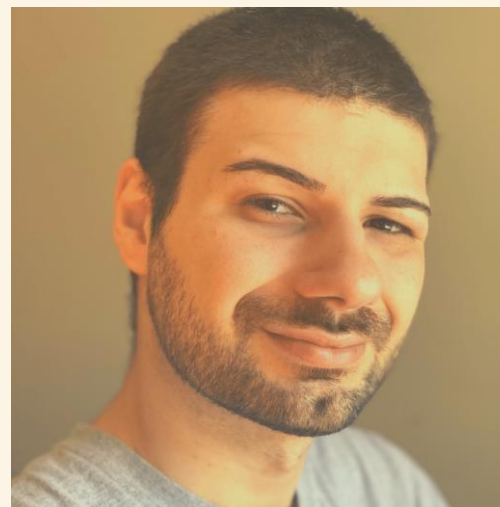
Tauhidul
Islam



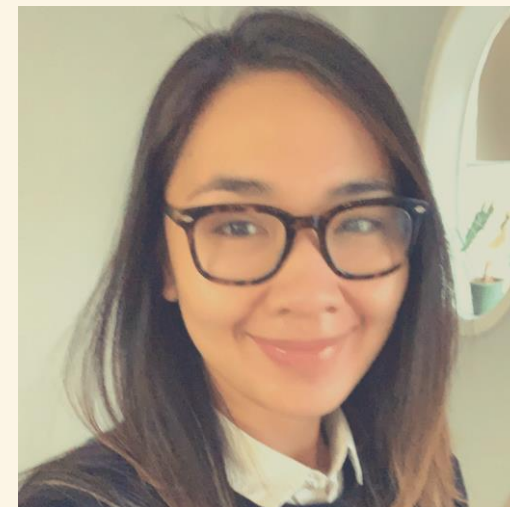
TEAM MEMBERS



Eranga
Kaluarachchi



Leonardo
Patricelli



Anna
Ongtengsiem



THANK YOU

Group 4

Case Study 3
BUS 4023

George Brown College

