

E-Mail Marketing Campaign for Universal-Plus

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Outline of the Presentation

- Problem Statement
- Present Situation
- CRISP-DM Methodology
- Our Solution
- Recommendation

Problem Statement, Objective, and Constraint

Problem Statement – Presently, the Universal-Plus follows Rules of Thumb or Random approach for targeting customers, some previous campaigns were not successful

Objective – To design a methodology to predict the target customers who will visit the shop utilising the CRISP-DM methodology

Constraint – Targeting uninterested customers costs the Client Money. Solution is designed in accordance with the constraint



Importance of E-Mail Marketing and Performance of Current Model

E-Mail Marketing

The importance

- Brand awareness
- Customer relationships

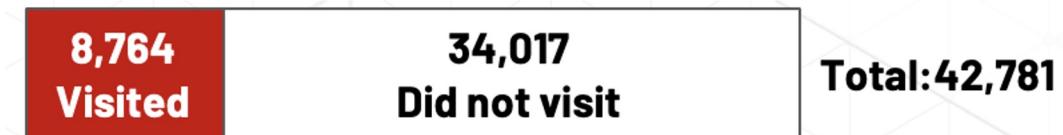
Survey* says

- 59% regards marketing emails as big influence
- 50% buy from marketing emails at least once a month

Current Model

The performance

- Customers who received emails in the past 2 weeks



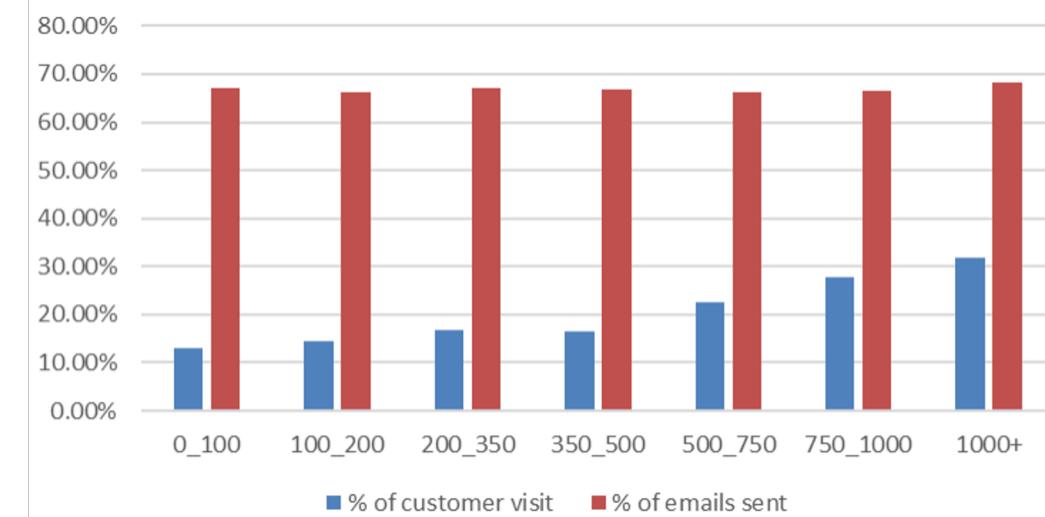
The algorithm

- Completely random



*<https://www.salecycle.com/blog/featured/18-essential-email-marketing-statistics/>

E-mails are Randomly Sent to the Customers

Recency**Purchase Segment****Current Model**

- Unable to capture trends
- Random approach: $\frac{1}{3}$ of customers received marketing campaigns uniformly

What You Need

- New methodology
- Predict customers visit
 - Avoid targeting uninterested customers

WE ARE HERE TO HELP!

CRISP-DM Methodology is utilized for the solution framework

1. Business Understanding

2. Data Understanding

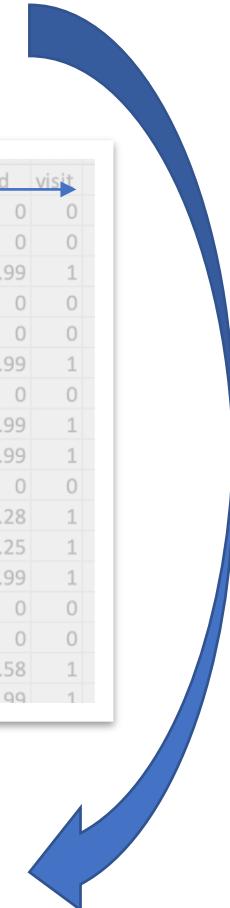
3. Data Preparation

Customer_ID	recency	purchase_segment	purchase	mens	womens	zip_area	new_customer_channel	email_segment	age	dependent	account	employed	phone	delivery	marriage	payment_card	spend	visit
11000001	10	2) 100 - 200	142.44	1	0	Surburban	0 Phone	Womens E-Mail	34	0	1	1	1	1	1	1	0	0
11000002	6	3) 200 - 350	329.08	1	1	Rural	1 Web	No E-Mail	37	0	1	1	1	1	0	0	0	0
11000003	7	2) 100 - 200	180.65	0	1	Surburban	1 Web	Elle E-Mail	57	0	1	1	1	1	2	0	83.99	1
11000004	9	5) 500 - 750	675.83	1	0	Rural	0 Web	Mens E-Mail	37	0	1	1	1	1	0	0	0	0
11000005	2	1) 0 - 100	45.34	1	0	Urban	0 Web	Womens E-Mail	29	0	1	1	1	1	0	1	0	0
11000006	6	2) 100 - 200	134.83	0	1	Surburban	0 Phone	Womens E-Mail	23	0	1	1	1	1	2	1	29.99	1
11000007	8	3) 200 - 350	280.2	1	0	Surburban	1 Phone	Womens E-Mail	28	0	1	1	1	1	1	0	0	0
11000008	9	1) 0 - 100	46.42	0	1	Urban	0 Phone	Womens E-Mail	15	0	1	1	1	1	1	1	47.99	1
11000009	9	5) 500 - 750	675.07	1	0	Rural	1 Phone	Mens E-Mail	34	0	1	1	1	1	0	0	107.99	1
11000010	10	1) 0 - 100	32.84	0	1	Urban	1 Web	Womens E-Mail	51	0	1	1	0	1	2	0	0	0
11000011	7	5) 500 - 750	548.91	0	1	Urban	1 Phone	Womens E-Mail	41	0	1	1	1	1	0	0	65.28	1
11000012	1	3) 200 - 350	211.45	0	1	Urban	1 Phone	Womens E-Mail	29	0	1	1	1	1	1	0	95.25	1
11000013	5	5) 500 - 750	642.9	0	1	Surburban	1 Multichannel	Womens E-Mail	23	0	1	1	1	1	2	0	135.99	1
11000014	2	2) 100 - 200	101.64	0	1	Urban	0 Web	Mens E-Mail	49	0	1	1	1	1	0	1	0	0
11000015	4	3) 200 - 350	241.42	0	1	Rural	1 Multichannel	No E-Mail	49	0	1	1	1	1	1	0	0	0
11000016	3	1) 0 - 100	58.13	1	0	Urban	1 Web	No E-Mail	29	0	1	1	0	1	2	0	58.58	1
11000017	5	1) 0 - 100	29.99	1	0	Surburban	0 Phone	Mens E-Mail	29	0	1	1	1	1	0	1	51.99	1

6. Deployment & Final Suggestions

5. Model Evaluation

4. Modelling



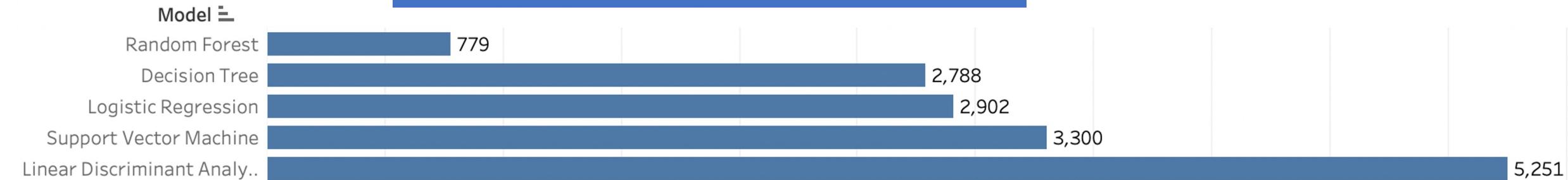
Various Classification Models are tested to Predict the Target Customers who will Visit

To save the cost, our model should have the least number of False Positives

False Positive Instance

Customer_ID	recency	purchase_segment	purchase	mens	womens	zip_area	new_customer	channel	email_segment	age	dependent	account	employed	phone	delivery	marriage	payment_card	spend	Visit - Actual Value	Visit - Predicted Value
11000006	6	2) 100 - 200	134.83	0	1	Suburban	0	Phone	Womens E-Mail	23	0	1	1	1	1	2	1	29.99	Yes	Yes
11000007	9	3) 200 - 350	280.2	1	0	Suburban	1	Phone	Womens E-Mail	28	0	1	1	1	1	1	0	0	No	No
11000008	9	1) 0 - 100	46.42	0	1	Urban	0	Phone	Womens E-Mail	35	0	1	1	1	1	1	1	47.99	Yes	Yes
11000009	9	5) 500 - 750	675.07	1	1	Rural	1	Phone	Mens E-Mail	34	0	1	1	1	1	0	0	107.99	Yes	Yes
11000010	10	1) 0 - 100	32.84	0	1	Urban	1	Web	Womens E-Mail	51	0	1	1	0	1	2	0	0	No	Yes

Random Forest Model gives the least number of False Positives

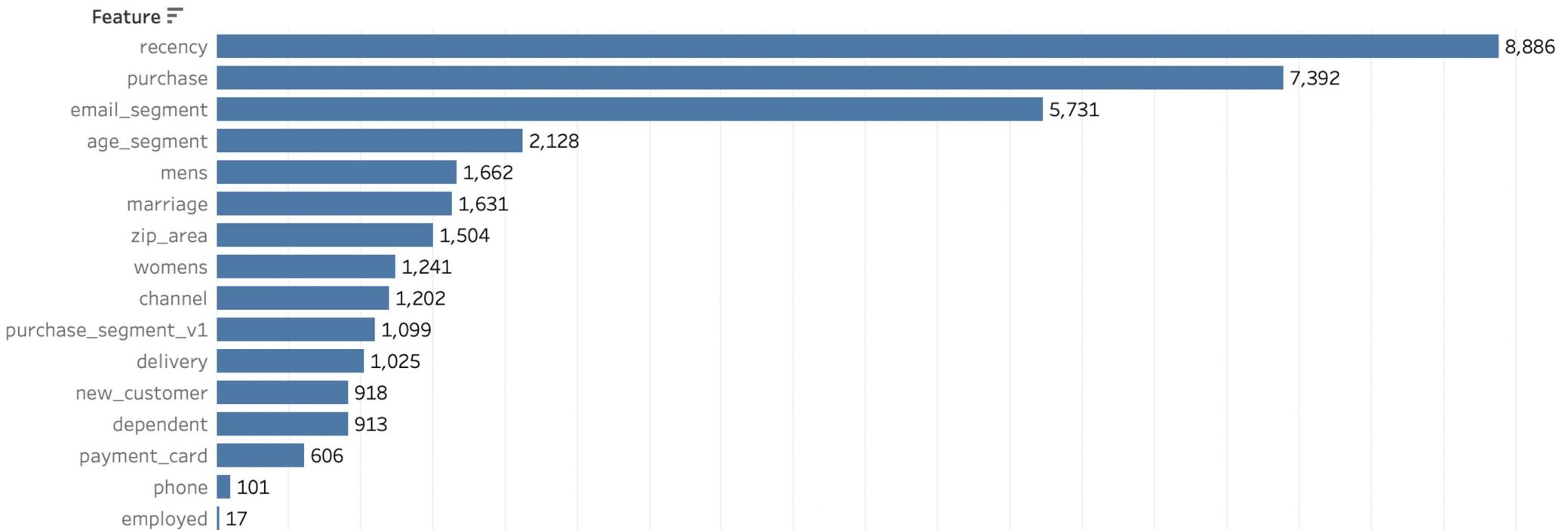


Kappa* values for Random Forest Model exceeds other Models



Our Model Allows to Visualise the Attributes according to the Importance

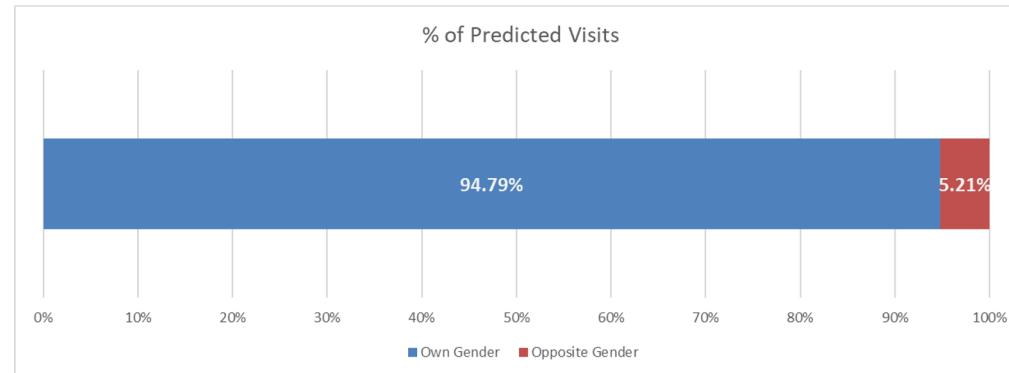
Recency, Purchase, and e-mail segment are the top 3 driving attributes governing our classification model



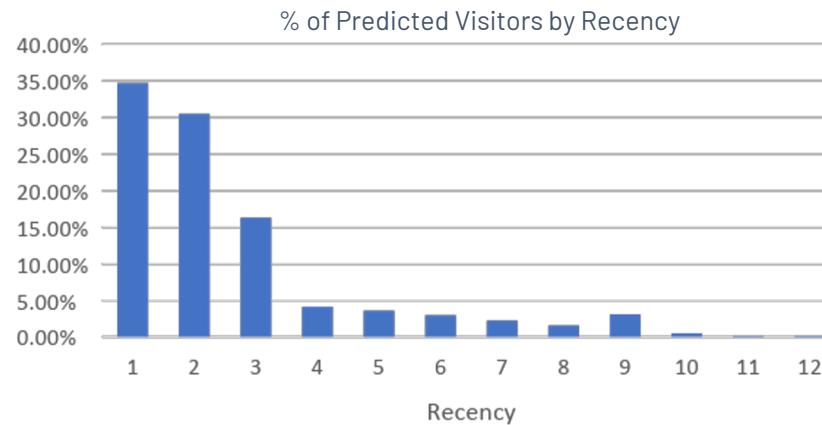
~ 70% of the predictability comes from Recency, Purchase, e-mail segment, Age segment and mens attribute

Business Insights from Our Solution Model

95% of predicted visits received marketing campaigns of their own gender



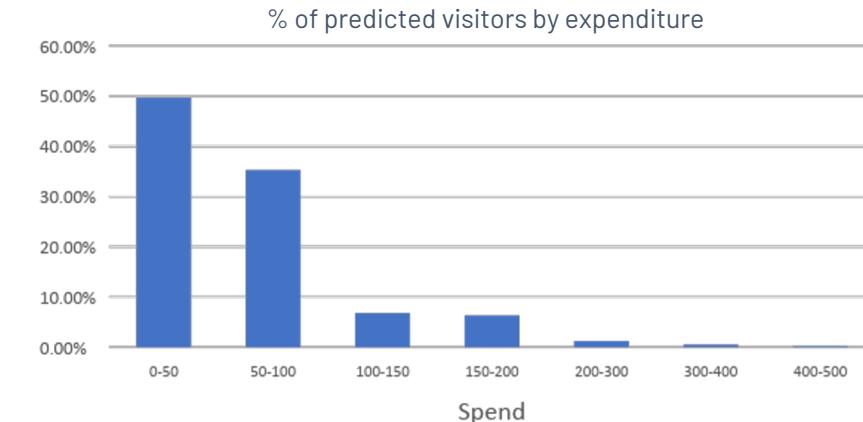
81% Customers Visits again within 3 months



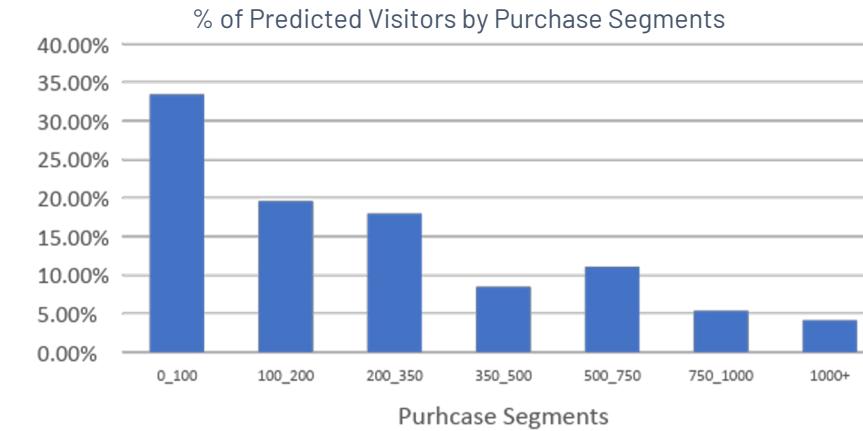
Suggestions:

1. Introduce new products frequently
2. Ensure logistic support to handle high inventory turnover rate

85% spent under 100 pounds



79% purchased less than 350 pounds in the last year



Suggestions:

1. Lower unit price of products are bought more frequently
2. Increase profit margin of lower priced products

Recommendation - Why our Solution is Better than the Existing Solution?

69% improvement over the existing method to predict the correct visits for the customers

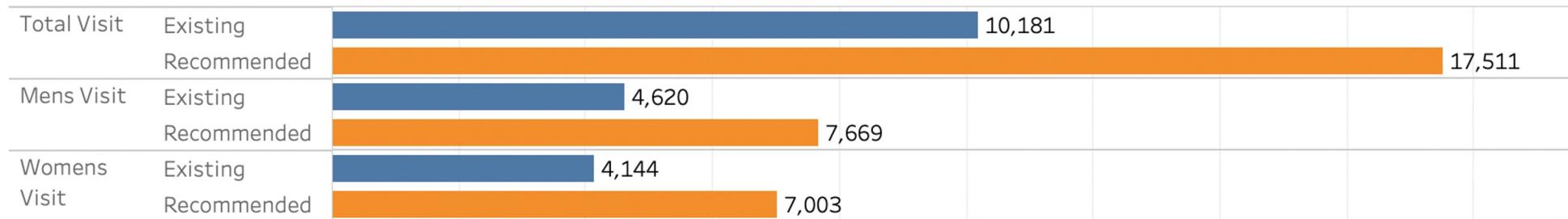


Figure: Visits Comparison across e-mail segments between Existing and Recommended Solution

67% improvement for Average Spend over the existing method to predict the correct visits for the customers

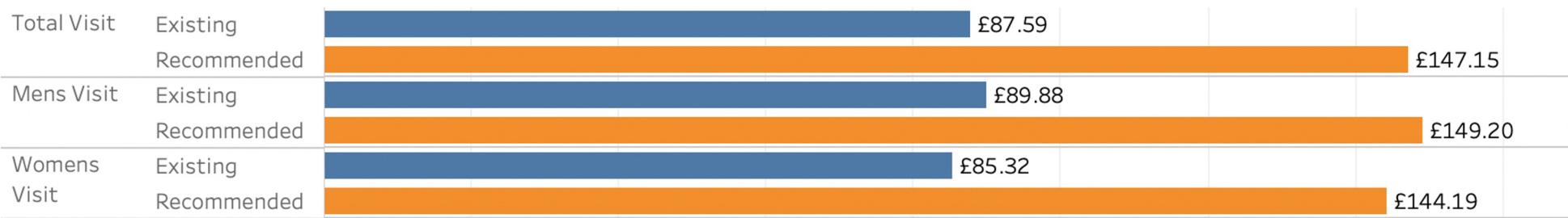


Figure: Average Spend(£) Comparison across e-mail segments between Existing and Recommended Solution

Our Solution model provides more reliable and re-producible results that are necessary for future e-mail campaign plannings



Thank You