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4.0

Lifecycle Triggers and Personalised Recommendations

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SYNTASA®

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SYNTASA

for the inspired

since **1937**

6000+ employees

32 locations

500k+ products

70% digital sales

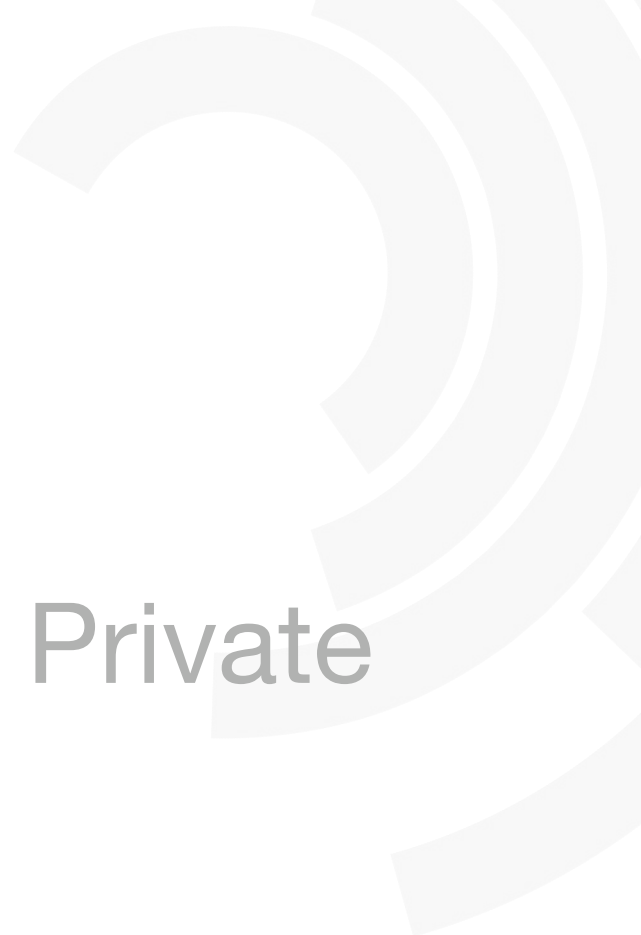**100m** visits

£1bn digital sales

CHALLENGE STATEMENT

- 12,500 users register themselves and place their 1st order every month

- 70% don't place another order within 30 days

- How can we intelligently target them with better products to make them convert again?

- What is the next best action?

- Customer Lifecycle – The Early Stage

12,500 new customers / month

70% only place 1 order in the first 30 days

30% order twice or more in the first 30 days
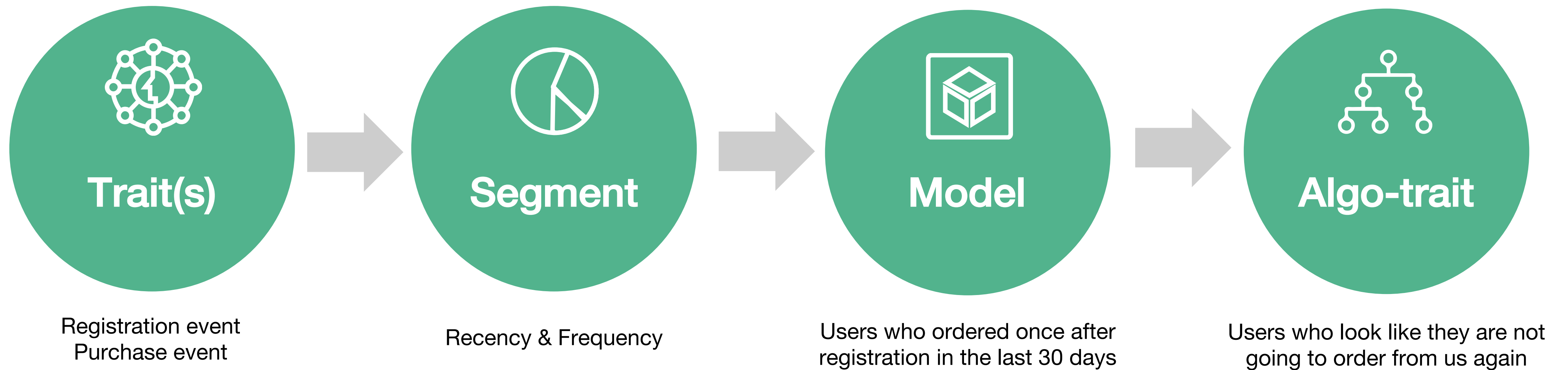
NEXT BEST ACTION

CUSTOMER WISH LIST

- Must be able to run the data from Adobe and Offline sources in the RS Virtual Private Cloud Data Environment

- Must be able to leverage open algorithmic approaches to build propensity scores across the known customer data set.

- Must be able to connect to the RS DMP to provide targeted lists to the RS Marketing Tech stack

- Must be measurable

THE SOLUTION

- Find the audience in Adobe Audience Manager

Trait(s)

Segment

Model

Algo-trait

Registration event
Purchase event

Recency & Frequency

Users who ordered once after registration in the last 30 days

Users who look like they are not going to order from us again

THE SOLUTION

Target audience

Track success

Next stage of customer lifecycle

Consistent message across channels and site

Reduce the proportion of drop-offs after 1 order

Next best action model

WHAT IS THE MESSAGE?

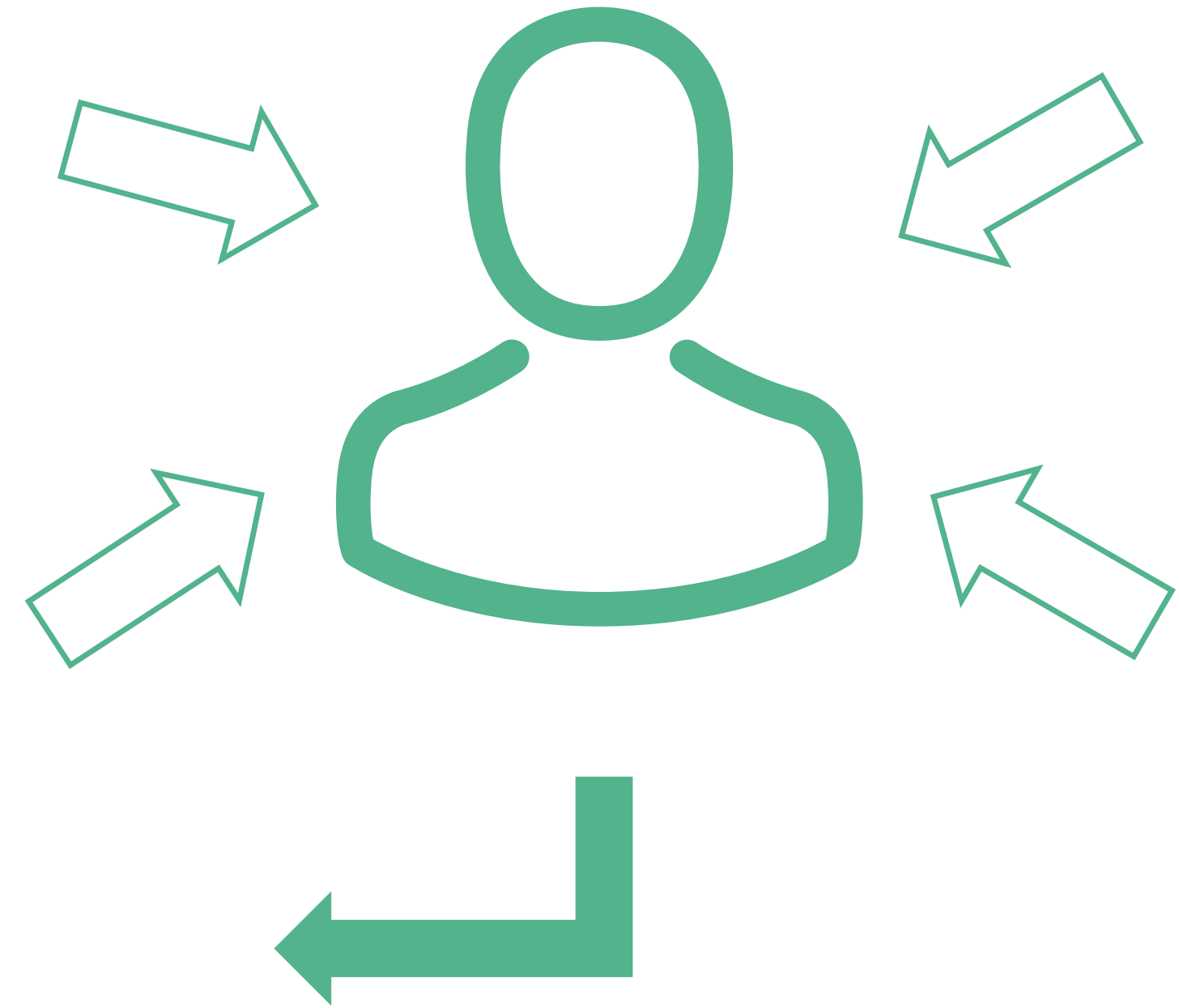# THE SOLUTION

- Content options for campaigning for second order

GENERAL
value proposition

PERSONALIZED
product recommendation

THE SOLUTION

"Utilise multiple data sources to truly understand RS customers and generate accurate product recommendations for our new customers"

THE SOLUTION

Multiple data sources

Adobe Analytics	Adobe Campaign logs	Offline transactional data
Daily, automated upload	Daily, automated upload	Weekly, automated upload

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Adobe Audience Manager
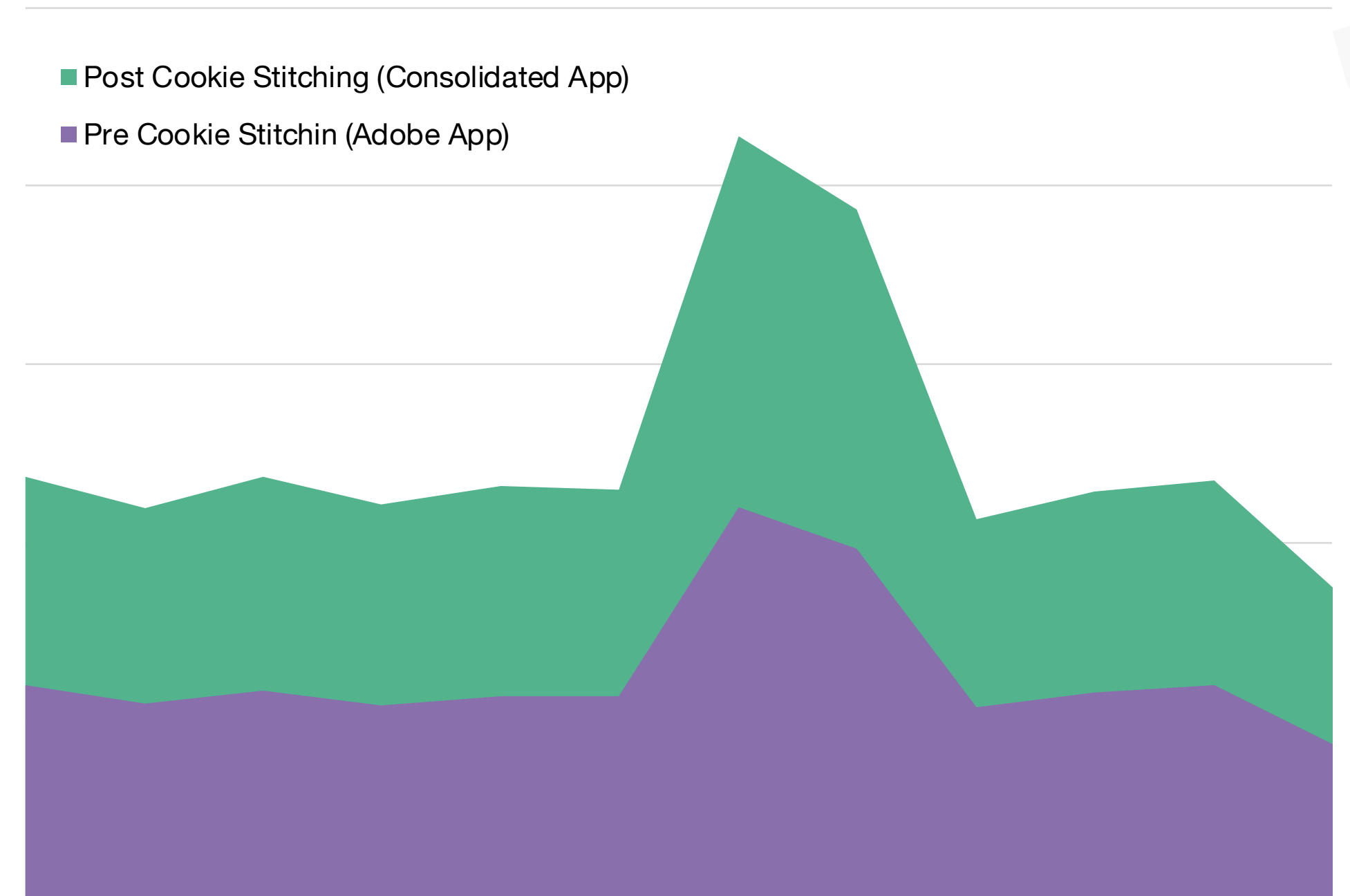
Adobe Campaign	Adobe Target	Paid Advertising

THE SOLUTION

Cookie stitching results

- Increased the amount of known customer data by **115%**

- Process uses cookie to customer ID matches **retrospectively & proactively**

- Optimises data for modelling, segmentation & analysis

- Post Cookie Stitching (Consolidated App)
- Pre Cookie Stitchin (Adobe App)

THE SOLUTION

PLANNED WORK

All Products Recommendation Model

- Generating up to 50 Product Family Recommendations for each website visitor

RS Pro Recommendation Model

- A second model will work as per the above but be restricted to products in the RS Pro product range
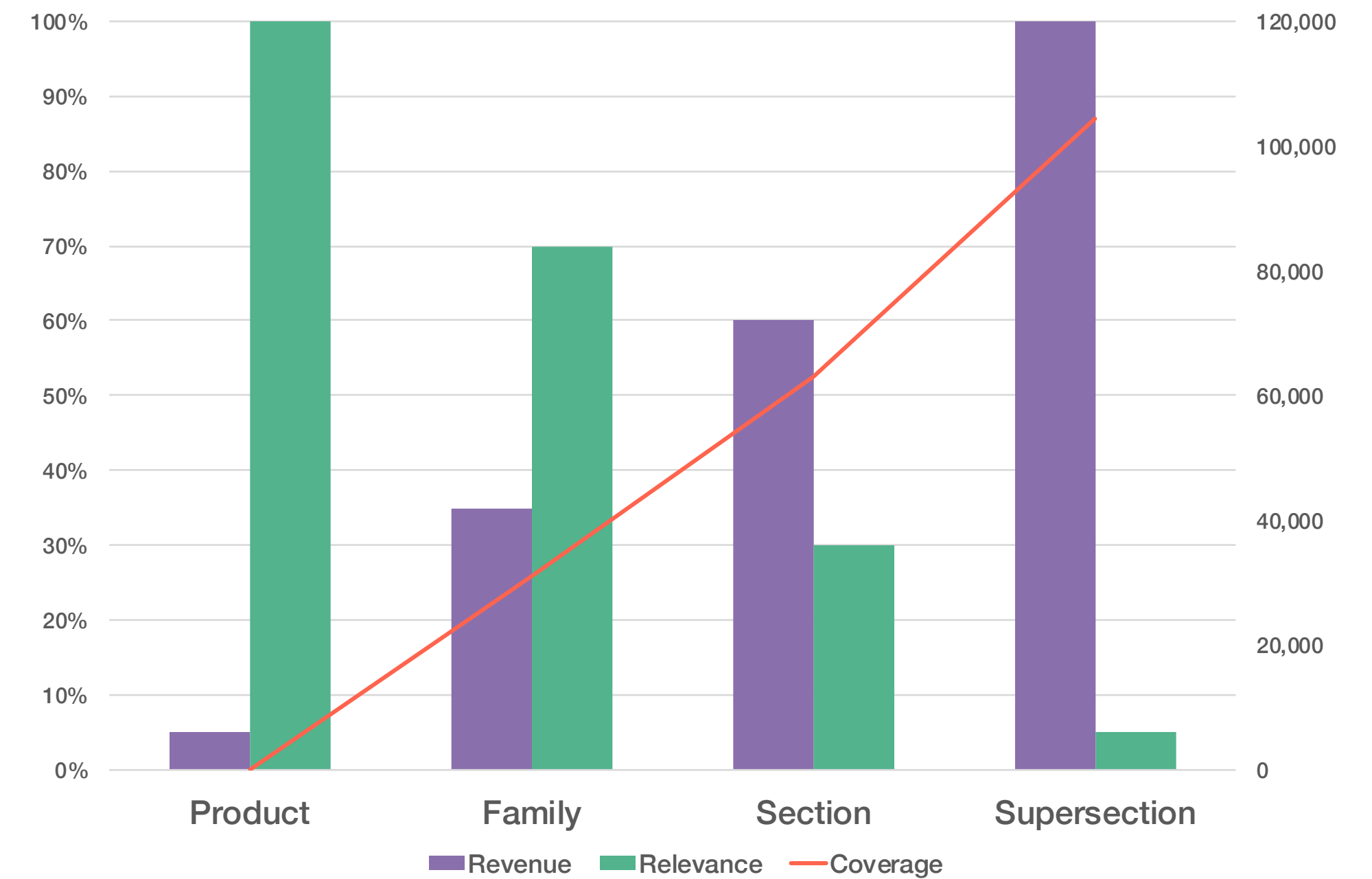
EXPERIMENTATION

EXPERIMENTATION

Initial Data Analysis

- 5 Products out of 1 Product family vs. 5 Product families

- Generate recommendation at what level?

EXPERIMENTATION PLAN

- Recommend 5 *families* out of 50 families per customer

- Models based on Apr and May 2018 data

- Evaluation metric - precision@k (with k =5)

  - Recommend 5 families to a customer and if any of those 5 families were included in next 2 purchases, consider the recommendation to be correct

- Pick a baseline to compare effectiveness of model

- Baseline of recommending top 5 families to every customer

  - Precision of 0.13

MODEL 1 EXPERIMENTATION

FP GROWTH

- Algorithm to identify frequent item-sets

- Originally developed to do market basket analysis

- Useful for identifying patterns like

  - "Customers who bought Processor & Microcontroller Development Kits are likely to buy Plug In Power Supply"

  - "Customers who bought Ceramic Multilayer Capacitors are likely to buy Surface Mount Fixed Resistors"

- Generated a precision of 0.17 overall (1.3X lift)

  - This model generated 2 types of cases and above precision is by combining below cases

    - Customers for whom there was a recommendation (precision 0.4)

    - Customers for whom there was no recommendation (all considered as misclassified)

MODEL 2 EXPERIMENTATION

ENSEMBLE – FP GROWTH + REPURCHASE PROBABILITY

- RS's customers tend to repurchase same family with a high rate (16% of existing customers and 25% of new customers)

  - This is not a normal occurrence in 'recommendation problems'

  - A standard model will not be enough for our problem

- An ensemble model was generated based on

  - Repurchase probability based on families

  - FP-Growth

- Generated a precision of 0.42 overall (3X lift)

- Even after eliminating families that are not purchased often, this model recommends a total of 450 families out of roughly 3000 families

- Reducing this down to only 50 families will reduce the lift drastically

MODEL 3 EXPERIMENTATION

MULTI CLASS CLASSIFICATION MODEL

- Considering that we can only recommend a static set of 50 families and there is a high rate of repurchase, a classification model is a good fit

- A Multi-Class classification model was generated that

  - Predicts how likely a customer is to purchase any of the 50 product families

  - Identify top 5 products a customer is interested in

- This model generated a precision of 0.5 overall

- Considerations:

  - This model recommends 5 families for all customers (existing and new)

  - Model does not wait until customer makes very first purchase to recommend next product

    - About 10% of new customers explore products, register but do not purchase on that day and purchase products later

    - Having recommendations in place for those customers can be beneficial

FUTURE POSSIBILITIES

Good fit for full scale Amazon style recommendation

- Large (individual) Product space

- Stable customer base

Different purchasing patterns observed – in-depth analysis needed to confirm

- Loyal customers who repeatedly buy similar products regularly

- Not so regular customers

- Customers at risk

- Further benefits towards Personalization, Promotions (RS Pro brand products)
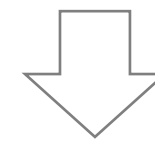
Customer acquisition Journey Analytics

Activation

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Adobe Audience Manager

Adobe Campaign	Adobe Target	Paid Advertising

Most popular in this category:

Fluke 115 Handheld Digital Multimeter, 10A ac 600V ac 600V dc 10A dc — Buy now

RS Pro 150mm Digital Caliper 0.0005 in, 0.01 mm, Metric & Imperial — Buy now

Fluke TL175 Test Lead Kit, CAT III 1000 V, CAT IV 600 V — Buy now

Stanley Tylon Series, 5m Tape Measure, Metric & Imperial — Buy now

Popular in the Coaxial Cable category

RS Pro 50 Ω, Male BNC to Male BNC Coaxial Cable Assembly, 5m Length, RG58 cable type — £10.66

LPRS 50 Ω, Male SMA to Female SMA Coaxial Cable Assembly, 167mm Length, RG174 cable type — £2.025

Belden Black RG174/U Coaxial Cable, Polyvinyl Chloride PVC Sheath 50m, 50 Ω, 2.79mm OD — £41.28

RS Pro 50 Ω, Male BNC to Male BNC Coaxial Cable Assembly, 2m Length — £5.61

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