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Create Business Value by Applying Data Science

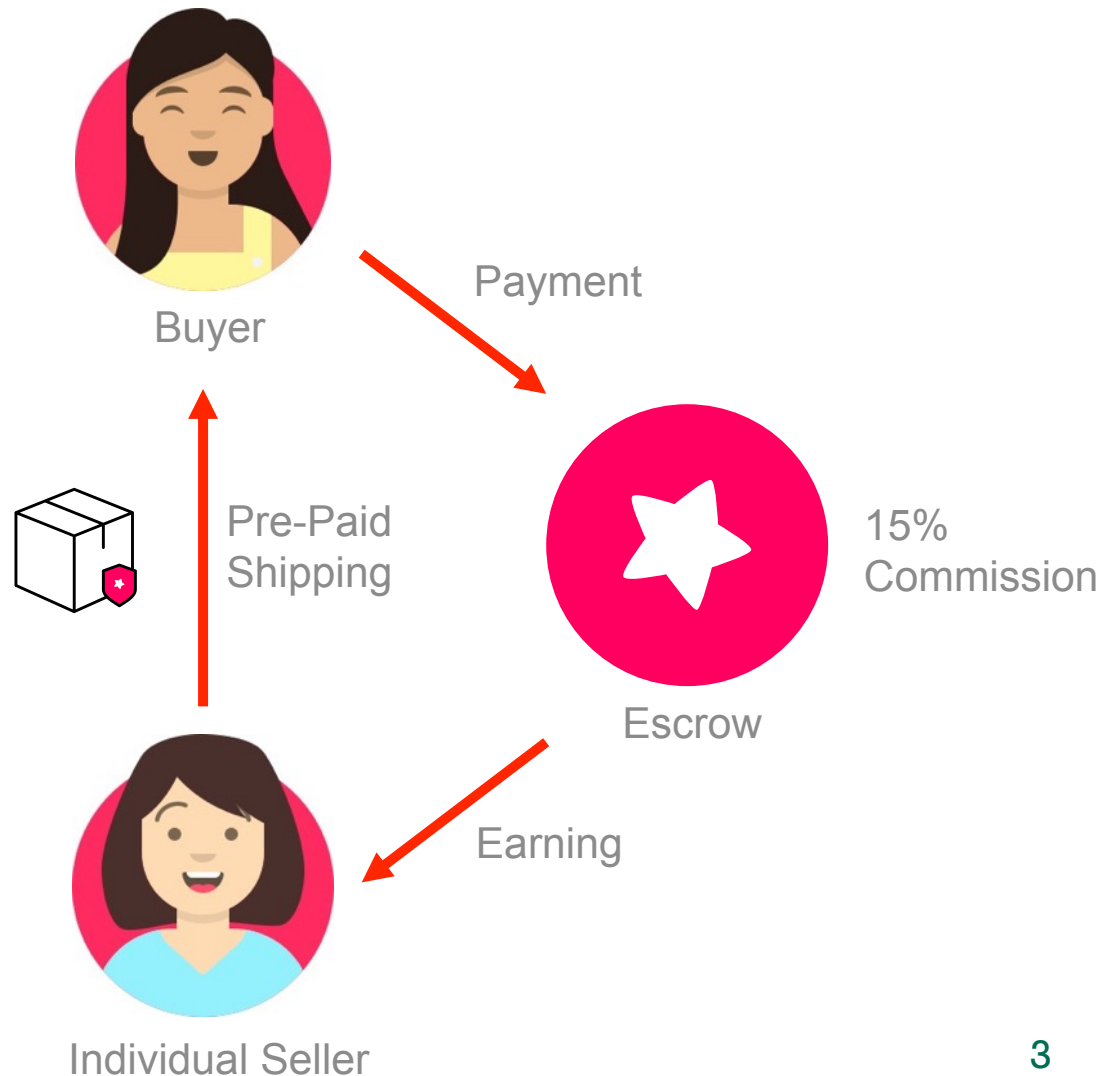
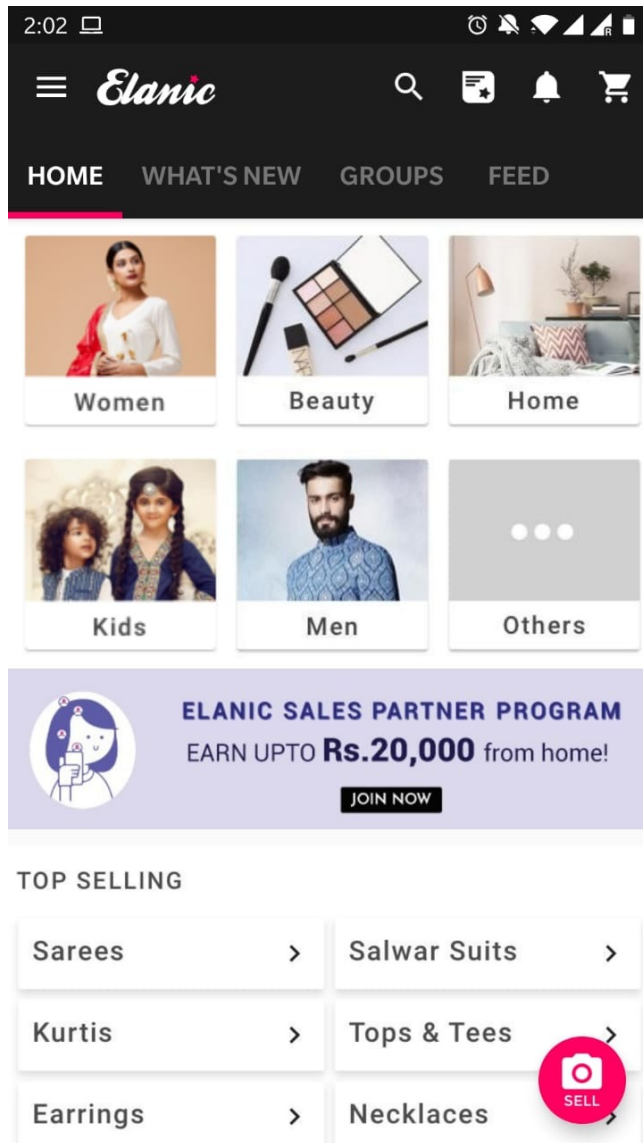
Elanic★

February 2018

Agenda

- 1 Business context**
- 2 Problem statement**
- 3 Analytical methodology & process**
- 4 Business insights & actions**

Elanic is a Social-shopping marketplace offering fashion lifestyles goods



Elanic is the largest online social marketplace for both new and pre-owned fashion items



2015

Launch Year



5million+

App Downloads



Rebright Partners,
TracxnLabs, Digital
Garage

Key Investors



400k+

Active Users

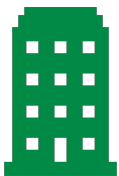


Series-A Funded
VC Funding Raised

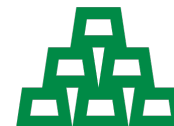


20%

**Month-to-month
Transaction
Growth**



Bangalore
Headquarters



1.5million+

Items listed

Three main areas Elanic focuses on to help transactions proceed as quickly and easily as possible

Issues

Many Indians leapfrog to mobile age to participate in digital economy

Varying standard and quality when it comes to pre-owned goods

Lack of trust between buyers and sellers

1 User Centric Mobile App



2 Social Features



3 Logistics



Features

Upload photos to app directly from phone and start selling. Elanic incentivize the user to complete a series of **gamified steps** to complete the account and transactions

Users can **chat** directly with the seller to bargain for the price, or simply ask for more product information. Users can also form **groups** on their own to curate products of a certain category.

Elanic works directly with **local carrier** back-end algorithm automatically calculates the best carrier options, and send the **shipping label to sellers** directly through email.

Who are the sellers?

Social Seller

Currently sell primarily on Whatsapp/
Facebook

37:63

Men : Women Ratio

Part time/ Full time seller

Offline stores + home sellers

83%

Between the age of 18 and 34

Curation is the key skill

Handpicks few from the unstructured
variety

55%

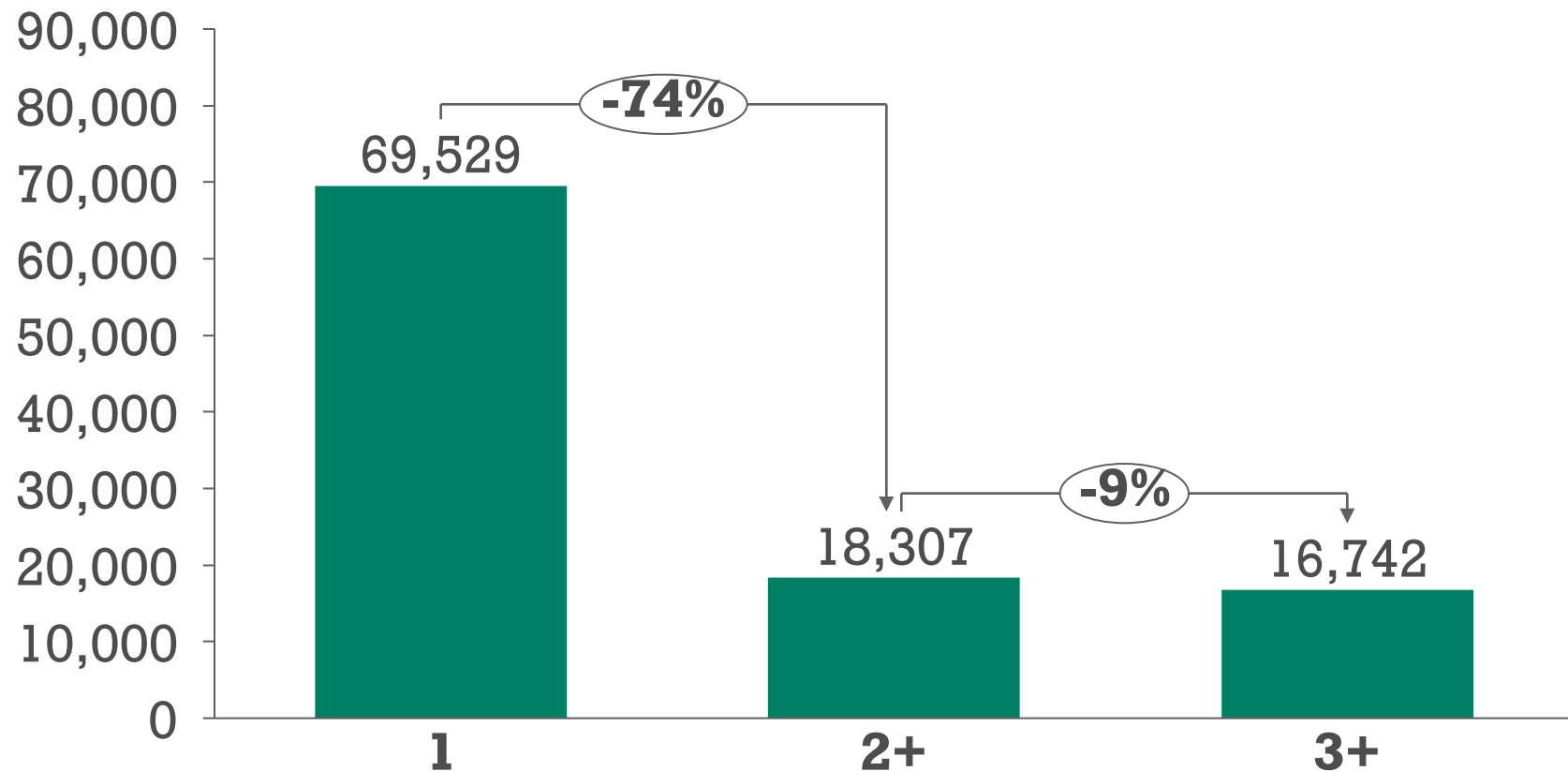
Home-based sellers

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Only 26% new customers purchased again in 3 months after the first order

Buyers – Number of Purchases in 3 months



The big question...

The Big Question

How to increase the number of 2nd time buyers?

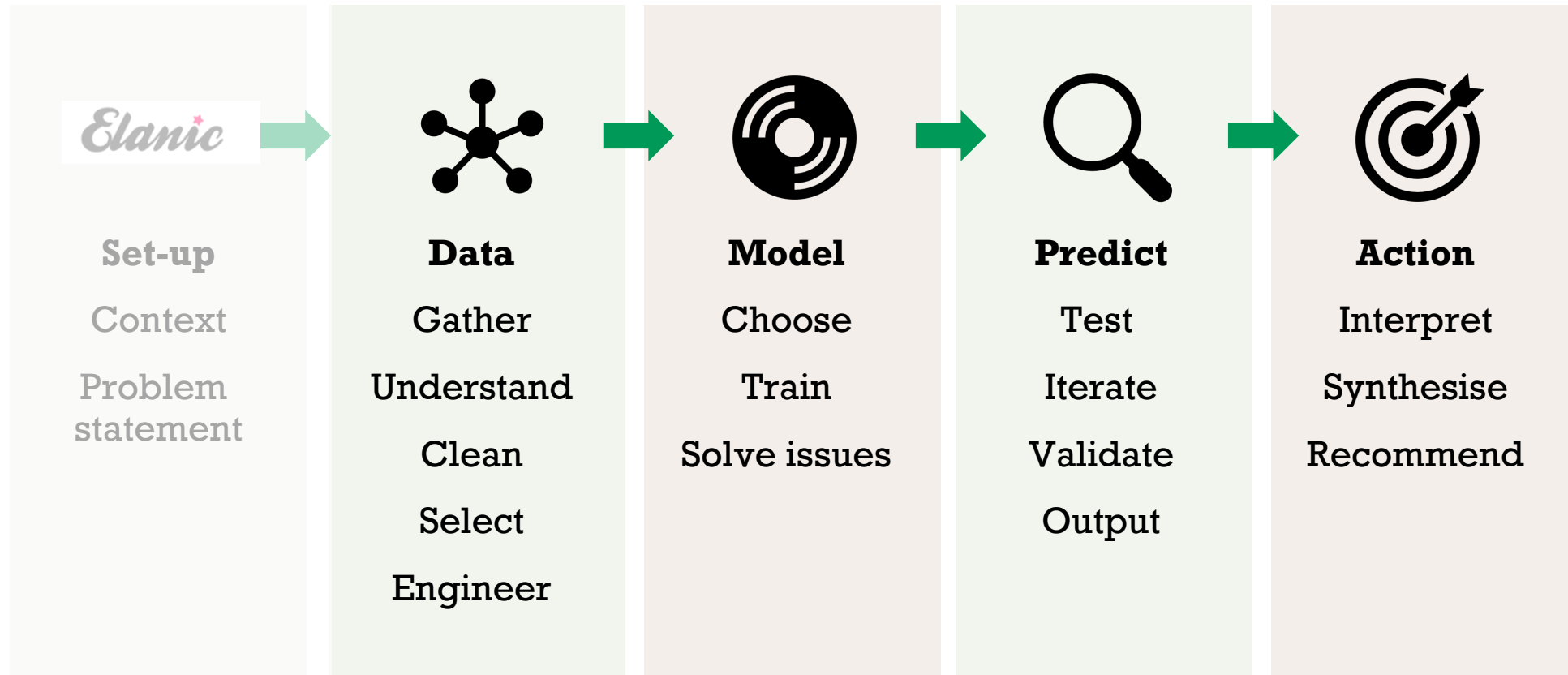
Why We Care

2 purchases is a threshold number for Elanic!

Need 3 orders per customer to recover acquisition costs

Average customer who buys 2+, will buy 7.5 over 12 months

To solve this, we applied a five-step methodology



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Understanding the data, cleaning and selecting the most relevant was critical

Data steps

1. Split the data to buyer, seller and order details
2. Cleaning data- convert column to factor, reduce dimensionality for variables with <50 records
3. Split the data into training, testing and validation set
4. Separate the buyers that returned the order as they are inherently more likely to place second order.

We made trade-offs to resolve certain data issues

Data issues encountered

- Geographical data was too granular
- Feedback was categorised to delivery, quality...
- Too many product subcategories
- Many incomplete orders (cancellation, return) in the data set

What we did

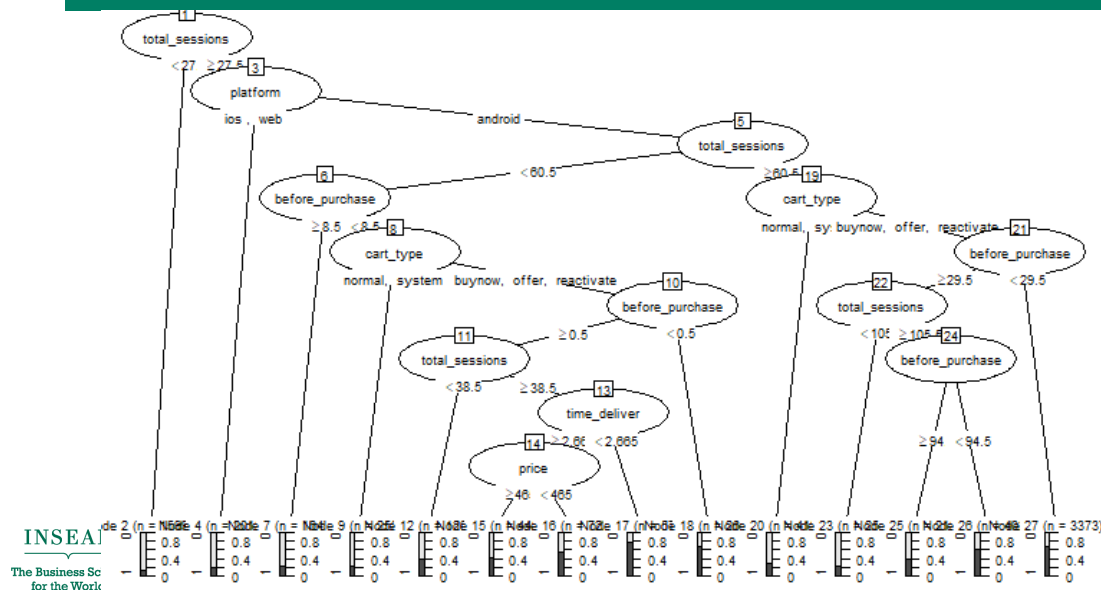
- Regrouped into state and region. We further segment the cities to Tier 1/2/3
- Regrouped to positive, negative and no feedback
- Consider only the main product categories
- Further regrouped some small categories into a single bucket
- Discard data of incomplete orders

Data highlights...

From Logistic Regression

	term	estimate	std.err	statistic	p-value
order_overall_feedbackNo Feedback		-5.99E-01	6.03E-0	-9.927651	8.16E-2
			2	36	3
order_overall_feedbackPositive		5.66E-01	6.91E-0	8.1863308	2.69E-1
			2	4	6
buyer_city_typeTier III		1.59E-01	3.90E-0	4.0764324	4.57E-0
			2		5
price		2.27E-04	6.40E-0	3.5449819	3.93E-0
			5		4
negative_feedbacks_received		-1.29E-03	3.80E-0	-3.385110	7.11E-0
			4	63	4

From CART



Data highlights

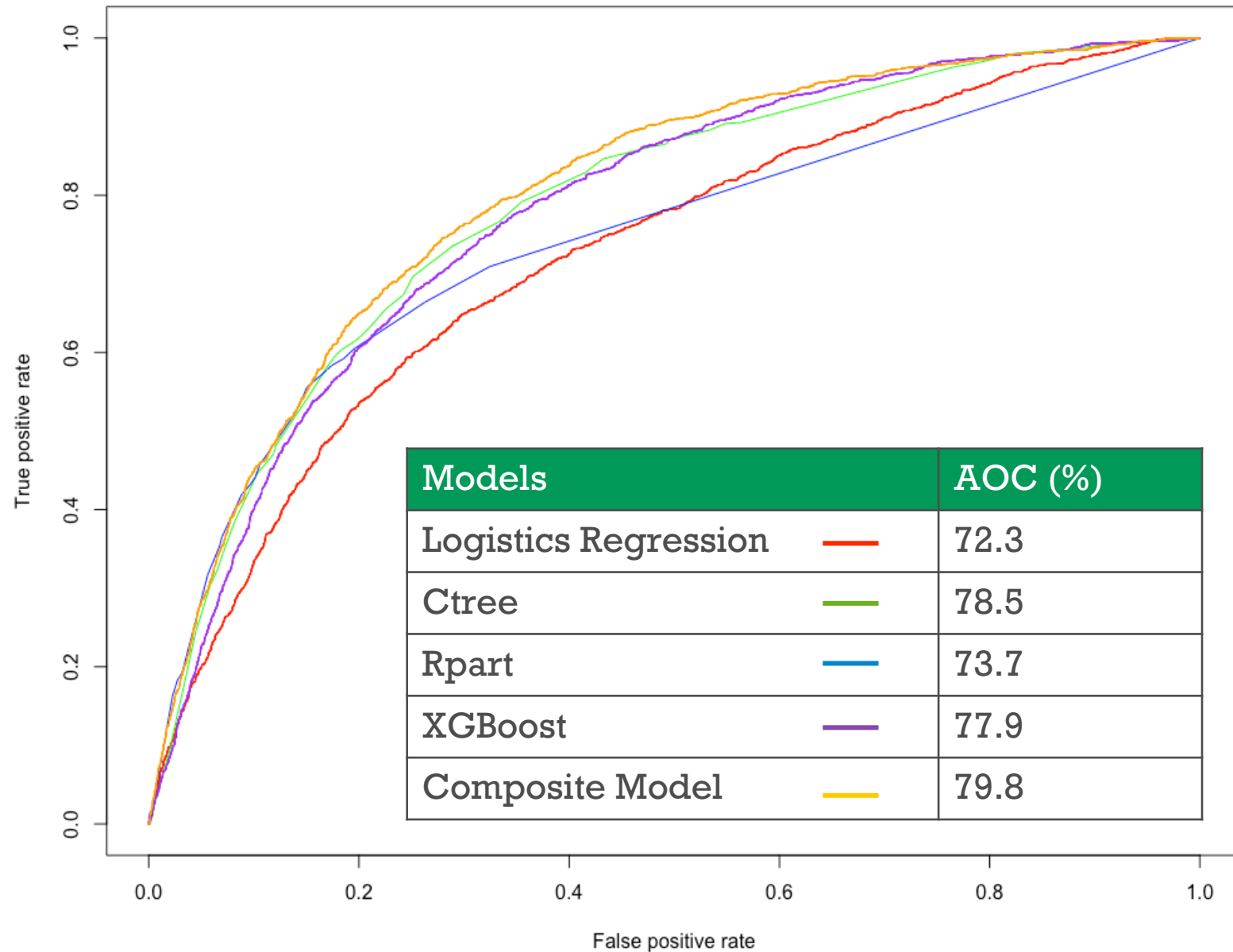
- The size (price) of the first order is one of the most important variables that determine second purchase
- Giving feedback (positive or negative) is already a good indicator of the engagement of the buyer. Customers who are satisfied (positive feedback) are more likely to place second order
- Buyers from third tier city are also more likely to be repeat customers.

We tested 5+ models on the cleaned data-set

Models	Why?
Logistic Model	Probability prediction, identify significant variables
ctree CART	To split data into clusters with trees
rpart CART	To trim the trees/ variables with cost parameters
XGBoost	To obtain better predictability at speed
Random Forest	To obtain more accurate prediction and variable importance
OLS	Assist with interpretability of “black box model”

Consider combining

Modelling produced predications with high accuracy



There were two big modelling issues to work around

Issues

**Interpretability of
XGBoost and
composite model**

**Computational
Limitations**

Workaround

Used linear regression to estimate the weightage of each variables

Discarded the Random Forest model as low pay-off given other options

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Insights were gathered from the analysis

Area	What Mattered		What Didn't Matter
	Positively Correlated	Negatively Correlated	
Buyer	Region: North-East** City Type: Tier III***, Tier II*	Region: West*	Buyer-Seller Proximity
	Gender: Unavailable**	Referred by Existing Users**	
	Total Sessions***	Sessions before 1 st Purchase***	
Order	Positive Feedback***	No Feedback***	Item Condition
	Price***	Delivery Charge**	Coupon Redemption
	Delivery Time*	Payment Type: ATM*, Razor Pay***	Pick-up Time
	Chat with Seller Before Buying*	Category: Sports & Entertainment***, Beauty**, Babies & Kids*	
		Cart Type: Checked out via Cart, Removed Items before Check-out***	
Seller	Positive Feedback Ratio*	Number of Negative Feedback***	Number of Posts
	Number of Total Feedback**	Return Rate**	

We recommend Elanic undertake 7 actions

Definitive actions	Marketing	Review of the referral program to increase retention rate of referrals 
		Rolling homepage banner on high price-quality product of each category, charge sellers for the advertisement fee
		Incentives for customers to give feedback and complete demographic information 
	Operation	Show number of feedbacks and positive feedback ratio on sellers' information page 
Hypotheses to be tested/piloted	Marketing	Target on North-eastern cities to acquire new customers
		Generate customer insights data of existing customers and target precise segment of new customers on social media 
	Data & Process	Implement tracking code monitoring Clicks, PV& bounce rate to understand the reason of uncompleted purchase

