

Ifood Transaction Analysis

Customer, campaign-response analysis,
and quick-wins business recommendation.

Executive Summary

Why?

Identify customer segments that is most valuable, highly receptive and likely to increase profit.

What?

1. Educated mid-high income couples are most valuable.
2. Focus on moderate and loyal responder. Easy to manage and high potential return.
3. Income, kids & catalog purchases are significant predictor of total spending

How?

1. Build campaign specifically targeting couples.
2. Launch a targeted VIP or referral program to valuables
3. Specifically targeting these high income with no kids to buy on catalog could increase company revenue

Context Definition

This Ifood dataset contains past transaction and **2205 customer** recorded demographic & behavior.

This analysis will provide insights & strategies of customer data, campaign-response analysis that can be used to increase profitability using descriptive and regression analysis.

Methodology & Tools Used

Methods:

- a. EDA
- b. Supervised & Unsupervised learning
- c. Multivariate Linear and logistic regression

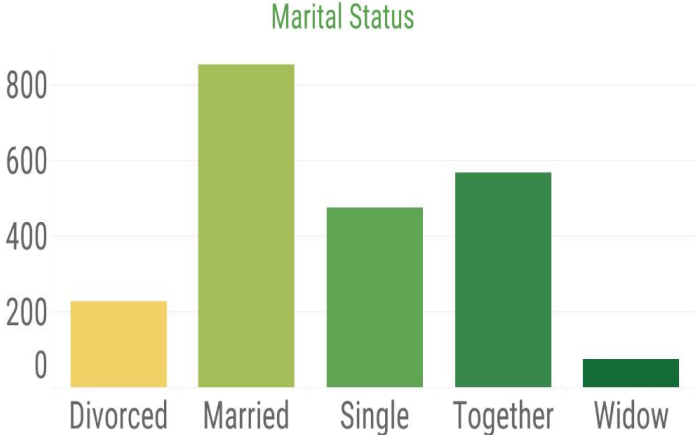
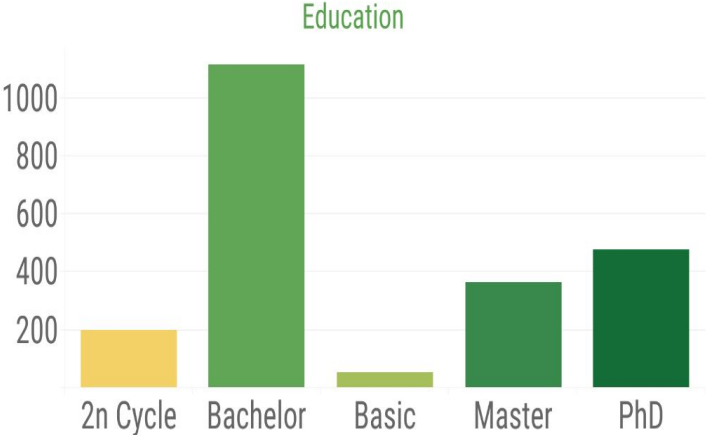
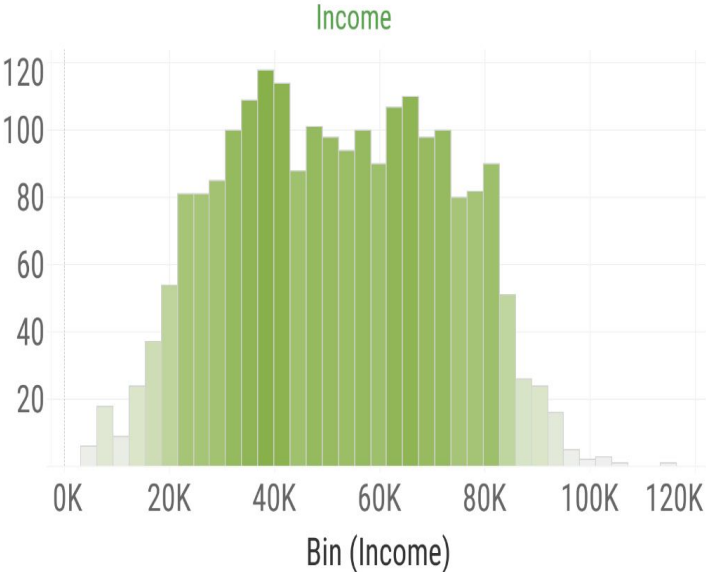
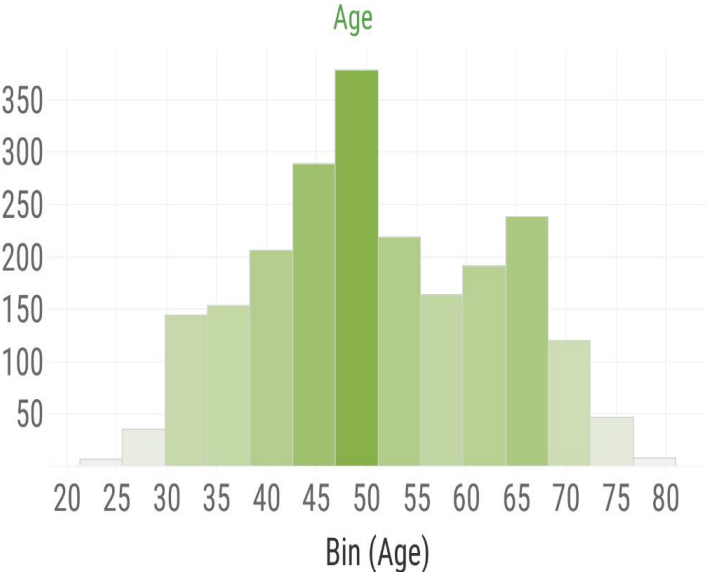
Tools:

- a. Spreadsheet
- b. R
- c. Tableau
- d. ChatGPT

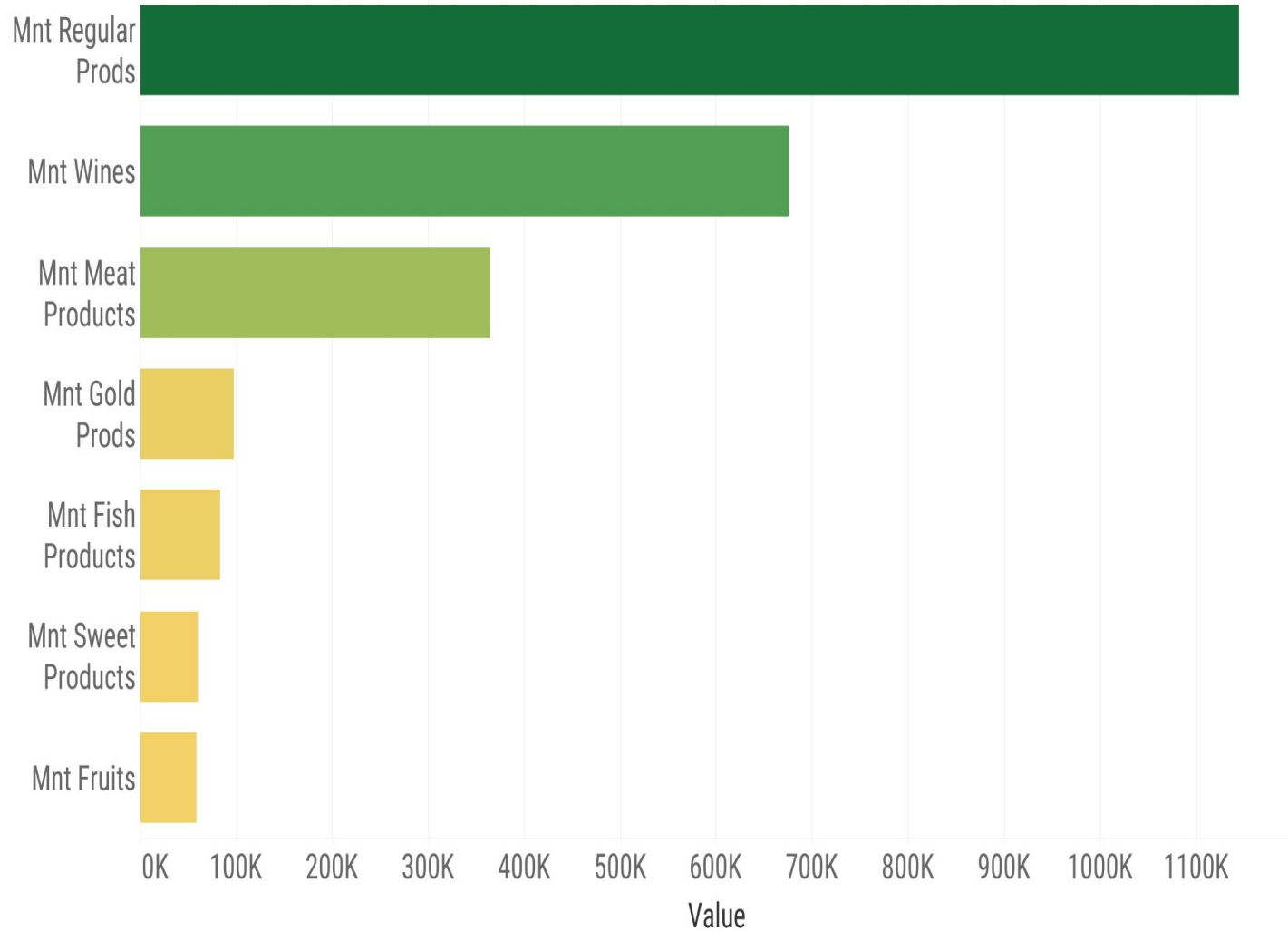
Key Findings

Consumer Segments

General Overview



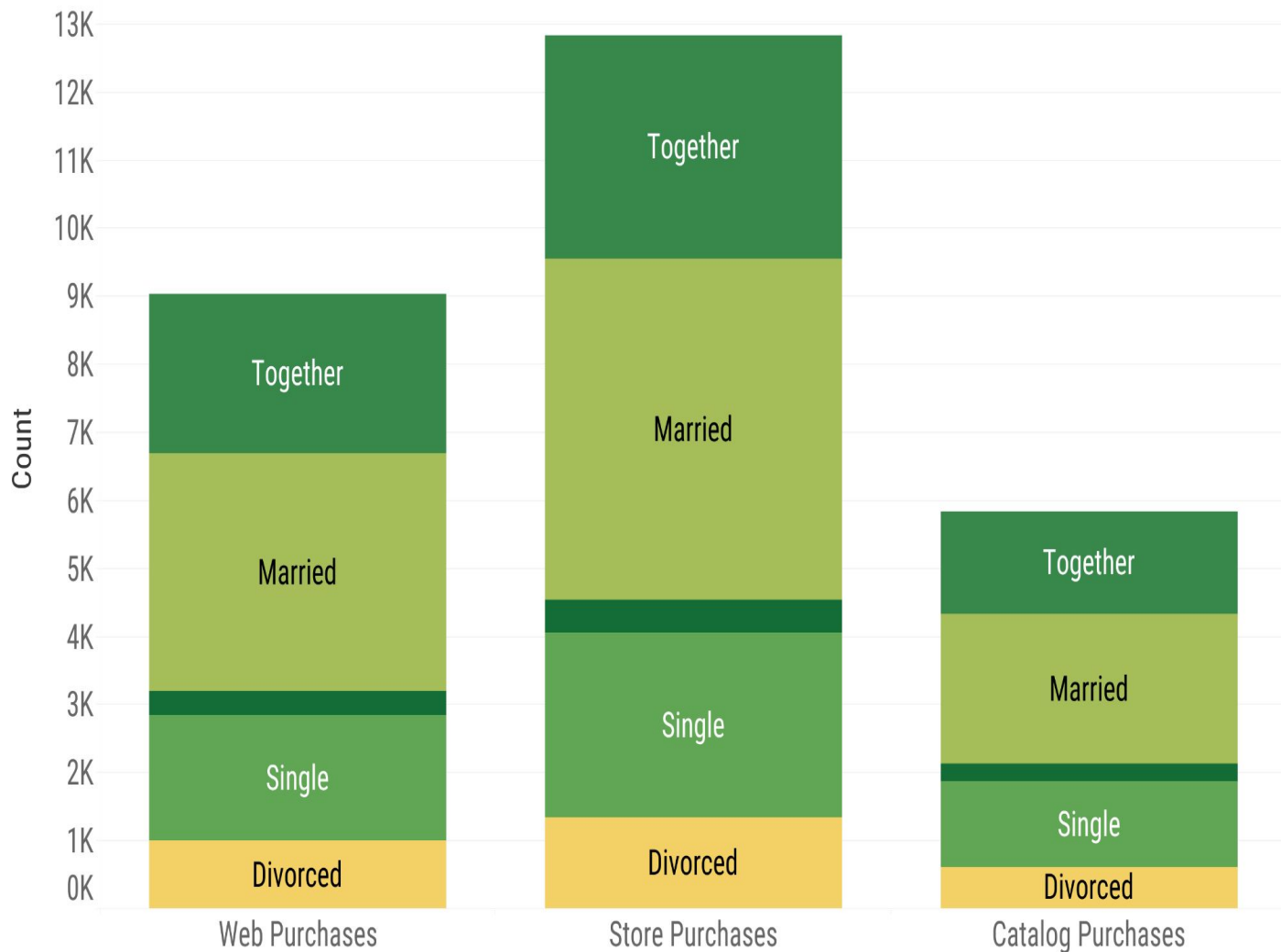
Products Sold



Marital Status and Distribution Channel

Couples buy more.

Recommended Actions:
We can present coupons, pricing, bundles or products to specifically target couples to nudge them to buy in store.



Recency, Frequency, Monetary Value

**Not all segments are
valuable**

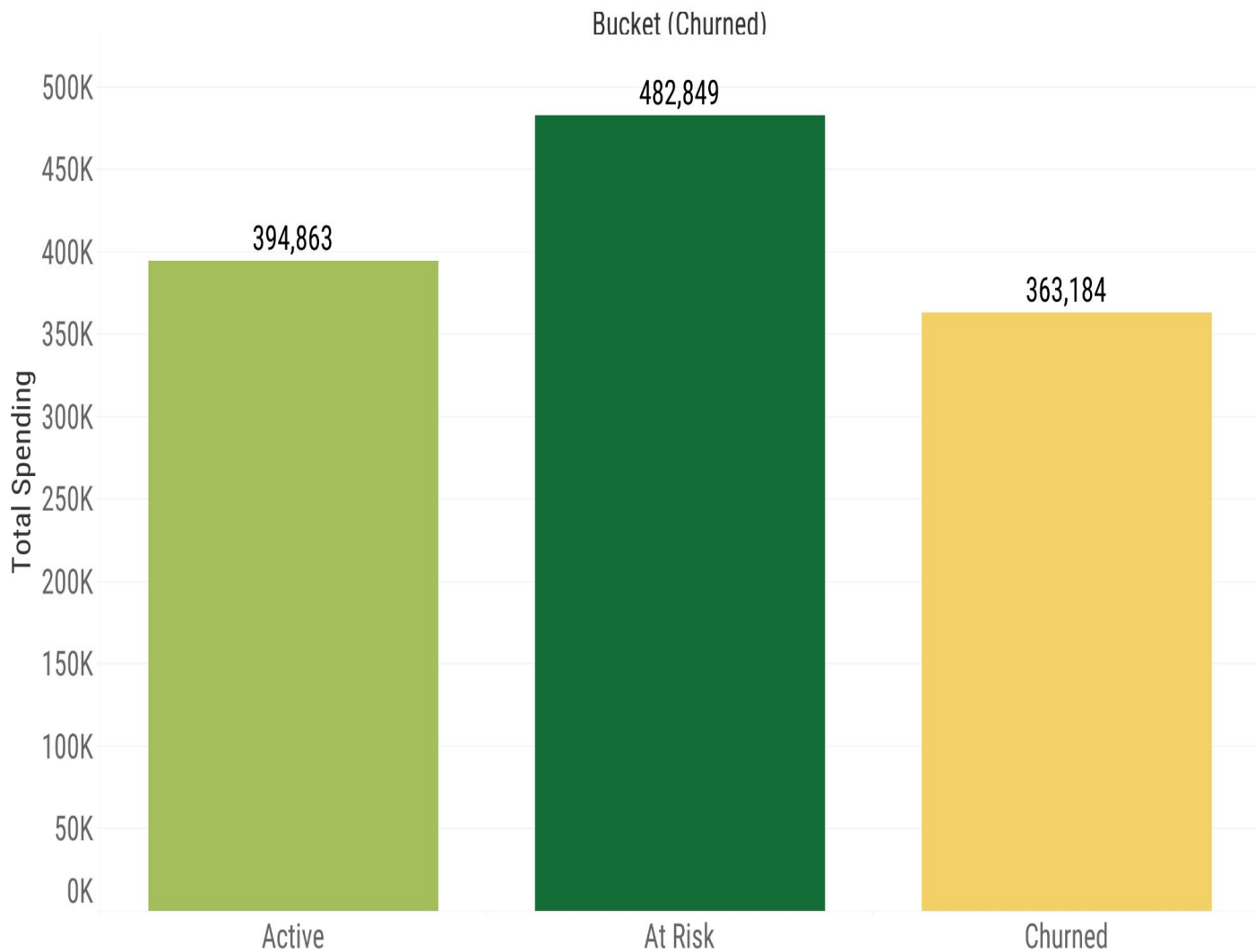
Occasional & frequent
buyer with 0-90
recent-purchase day
contribute huge proportion
of total sales.

Bucket (Frequency)		Bucket (Recency)		
		0-30 days	31-90 days	91-180 days
Frequent Buyer		127,115	260,094	35,926
Occasional Buyer		256,485 <div>Recommended Actions: Follow-up product suggestions or bundles. (Push them into habit loop)</div>	457,039 <div>Recommended Actions: Launch a VIP or referral program (Retains loyalty + grows base through word-of-mouth).</div>	70,491
Rare Buyer		11,263	19,500	2,983

Big Risk Revenue Loss Due to Churned

At Risk Segment
(Last transaction 30-70
day)

Recommended Actions:
Email/Launch campaign
specifically to activate this
segment.



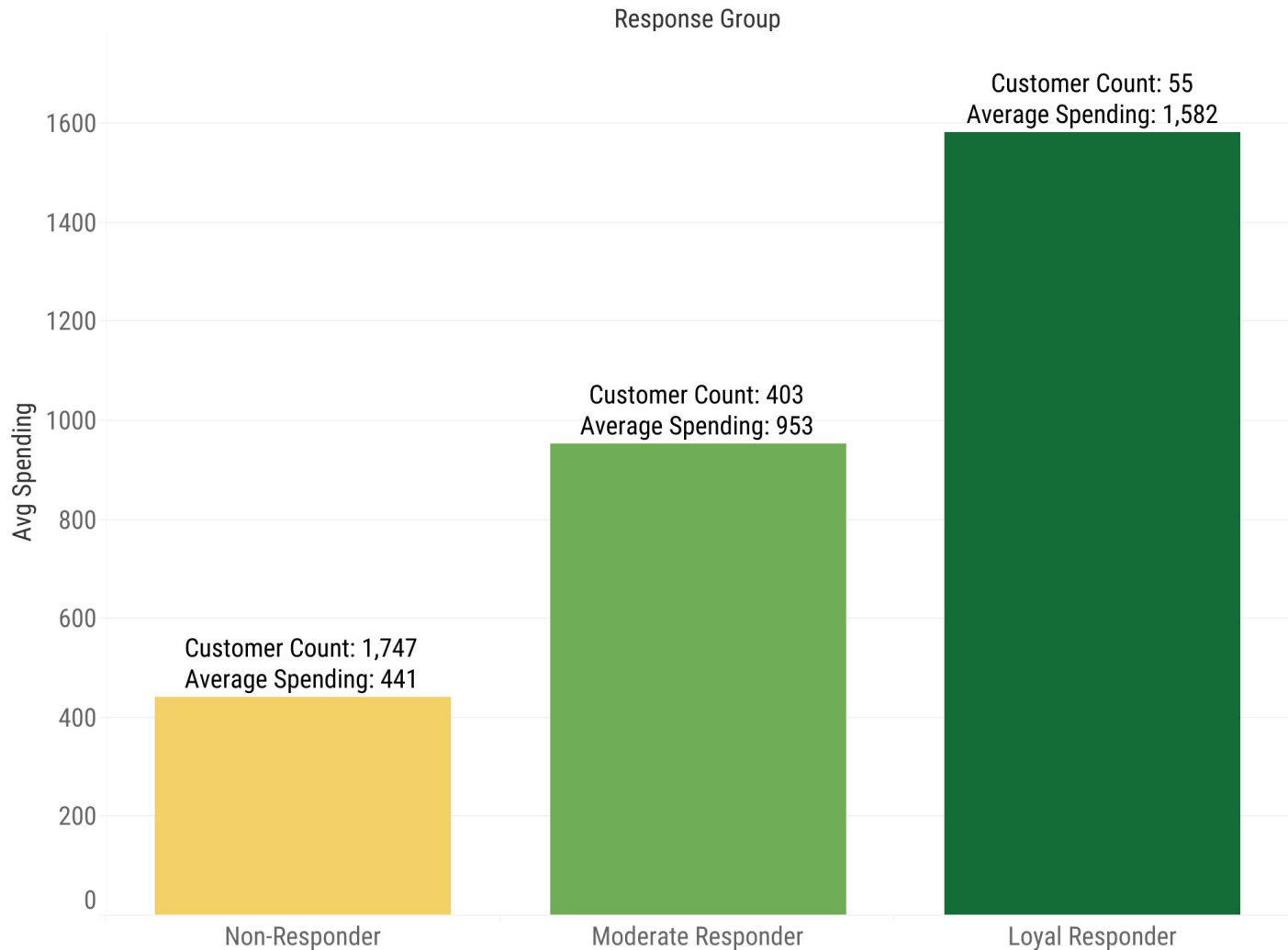
Who response To campaigns?

Finding insights to target
and design marketing
campaign efficiently.

Customer Campaign Response

Responder are gold

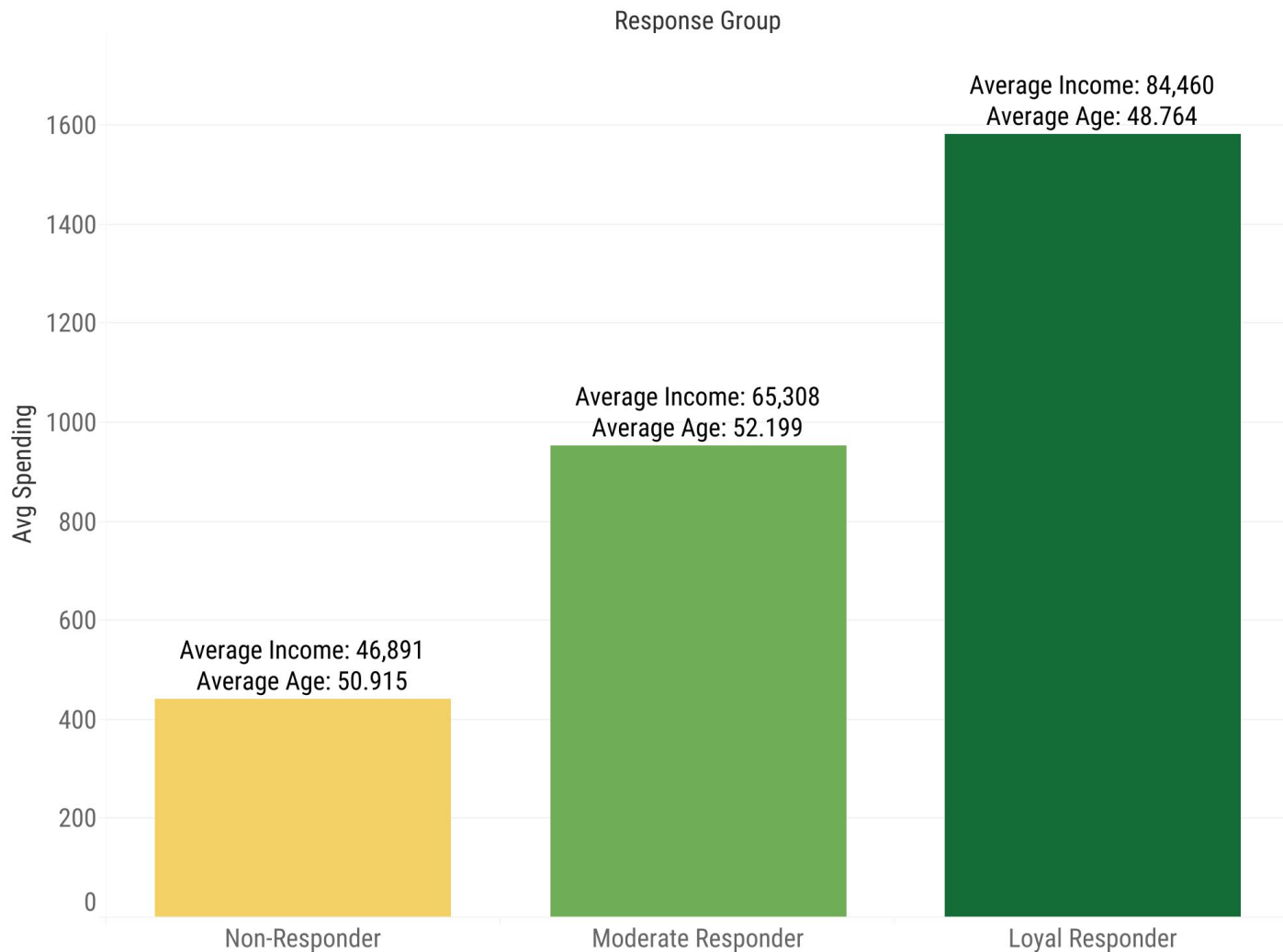
Focus on moderate and loyal responder. Easy to manage and high potential return.



Responder Data

They are higher income segments

Age is typically similar but responder campaign responder tend to be higher income.



Channel Distribution

Catalog is key

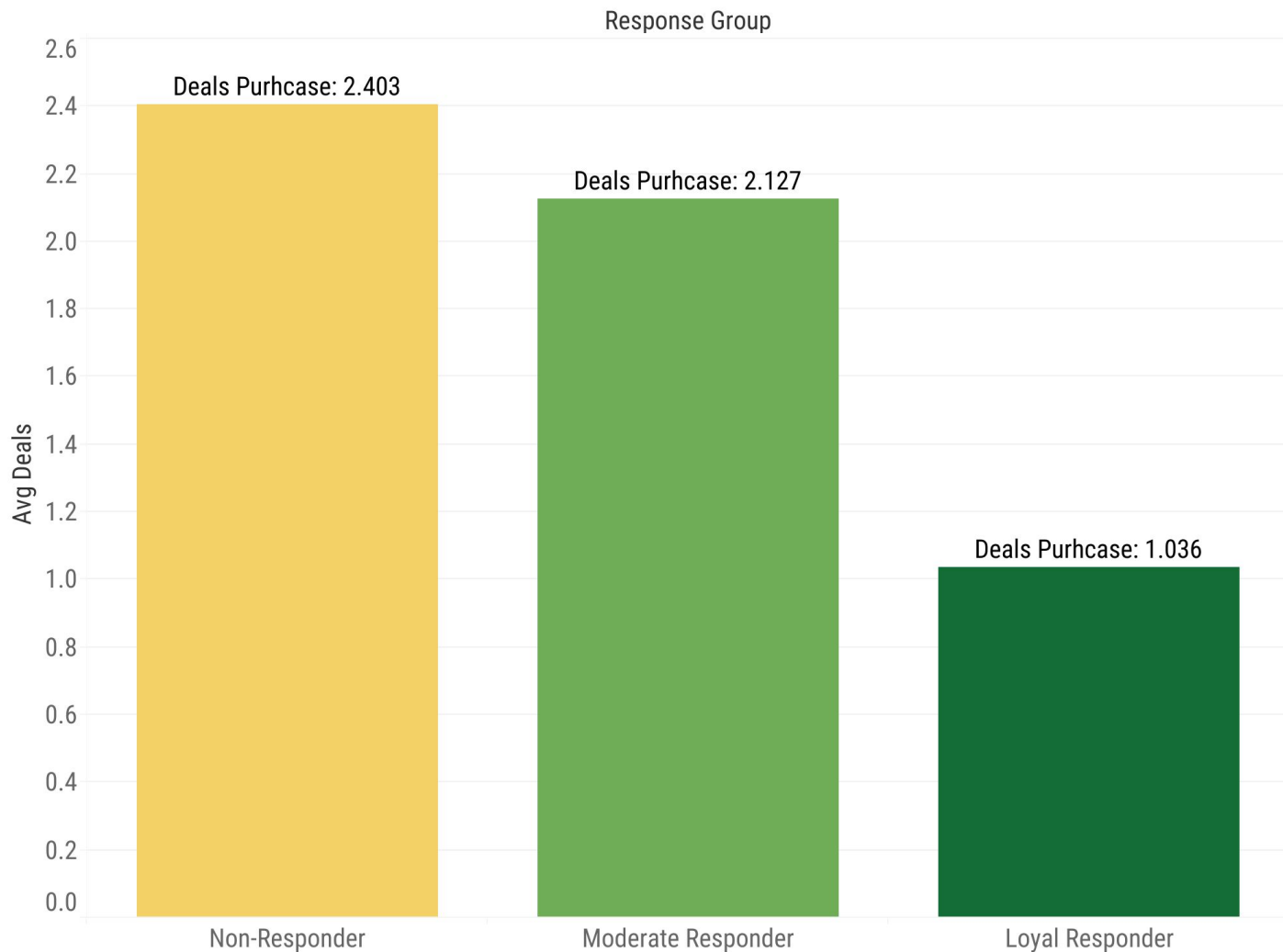
Loyal responder enjoy catalog purchase.
Optimising catalog would be a game changer.



Do campaign should offer discount?

Not really

The campaign should focus less on discount, but rather connect through storytelling and education selling.



High income and high total spend => campaign response

These variables predict campaign response more than others

Variable	Coefficient	Significance	Interpretation
Income	+0.000114	***	Higher income → higher chance of campaign response
MntTotal	+0.001813	***	Higher Total Amount of purchase → higher chance of campaign response

1. High-income segments are more receptive to campaigns (buying power).
2. Those who have already made significant purchases (invested in iFood and loyalists).

Past product purchase => campaign response

Meat, wine and gold products

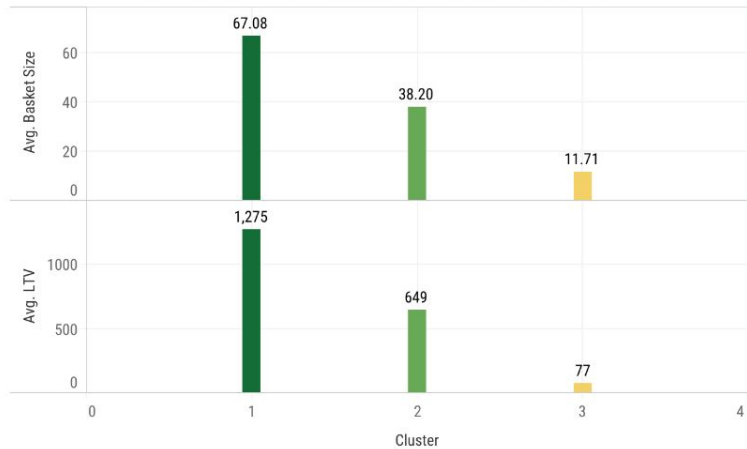
1. Target customer with these high history of these category purchase.
2. Make campaign, education selling and storytelling around these products.

Variable	Coefficient	Significance	Interpretation
Meat	+0.000114	***	Higher meat purchase → higher chance of campaign response
Golds	+0.00348	*	Higher Total Amount of Golds → higher chance of campaign response
Wines	+0.004132	***	Higher Total Amount of Wines → higher chance of campaign response

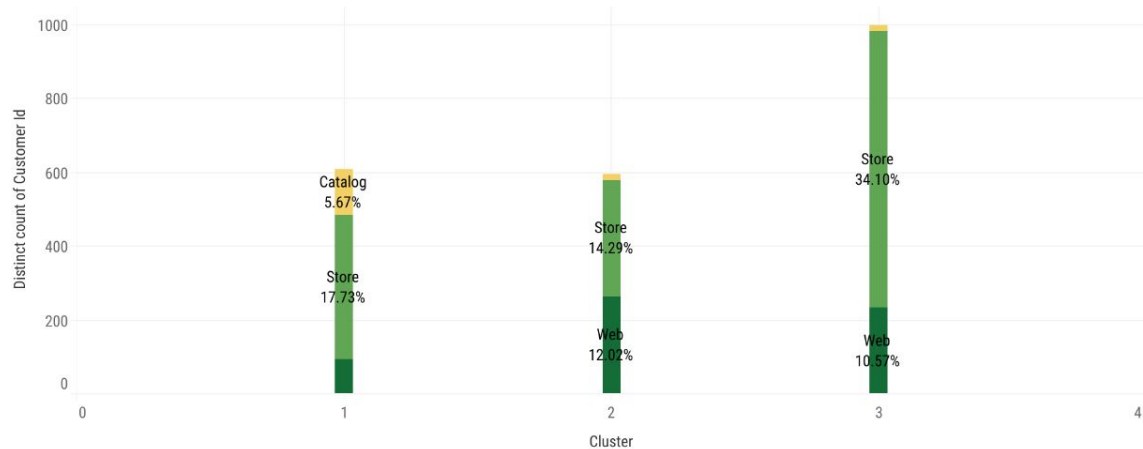
K-Means Cluster

What a typical demographic information of ifood most valuable segments?

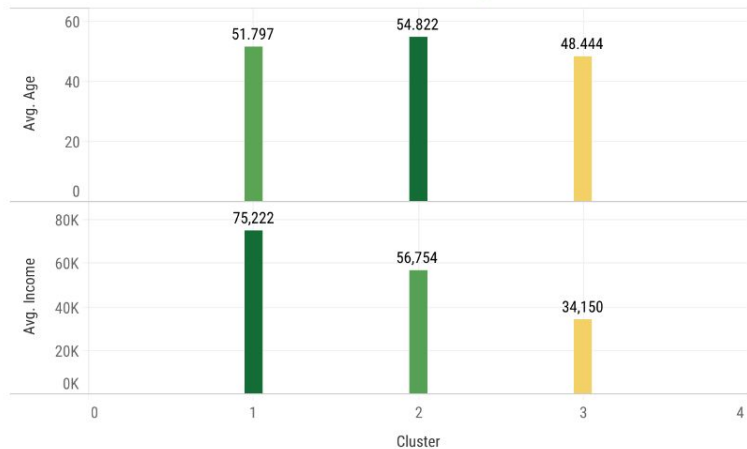
Cluster Basket Size and LTV



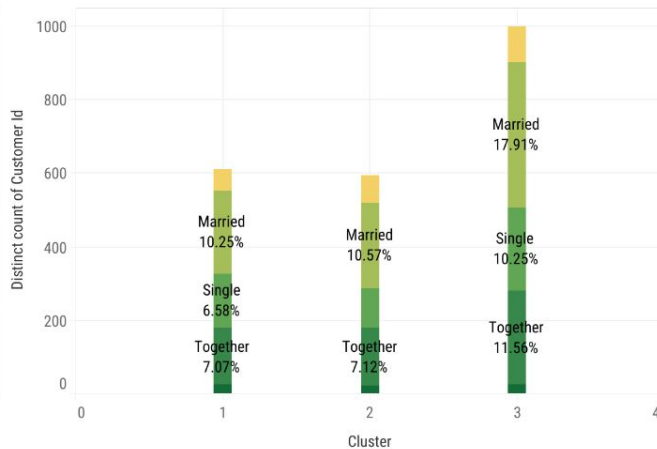
Channel Distribution



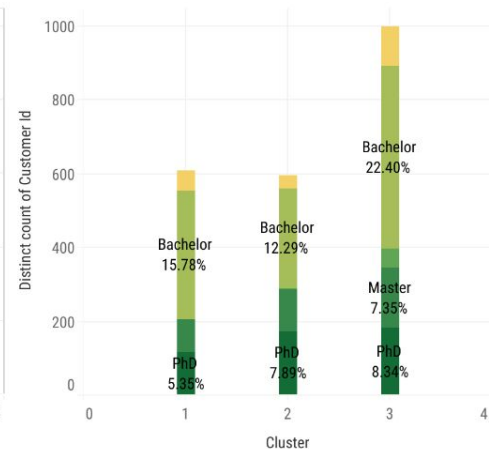
Income and Age



Marital Status



Education



Multi-linear Regression

What drives customer total spending?

Higher income, less kids, bought on catalog

**These variables predict more
spending in total**

Specifically targeting these
segments to buy on catalog could
increase company revenue

Variable	Coefficient	Significance	Interpretation
Income	+0.0139	***	Higher income → higher spending
NumCatalogPurchase	+81.1	***	Higher catalog purchase → higher spending
Kidhome	-85.9	***	Less kids → higher spending

Next Steps

1. Build campaign specifically targeting couples.
2. Launch a targeted VIP or referral program focus on moderate and loyal responder.
3. Specifically targeting these high income with no kids to buy on catalog could increase company revenue

Appendix

Churned

```
IF [Recency] <= 30 THEN "Active"  
ELSEIF [Recency] <= 70 THEN "At Risk"  
ELSE "Churned"  
END
```

Recency

```
IF [Recency] <= 30 THEN "0-30 days"  
ELSEIF [Recency] <= 90 THEN "31-90 days"  
ELSEIF [Recency] <= 180 THEN "91-180 days"  
ELSE "180+ days"  
END
```

Frequency

```
IF [Purchase Freq Per Year] >= 3 THEN "Frequent Buyer"  
ELSEIF [Purchase Freq Per Year] >= 1 THEN "Occasional Buyer"  
ELSE "Rare Buyer"  
END
```

Tenure

```
IF [Customer Days] <= 2385 THEN "Low Tenure"  
ELSEIF [Customer Days] <= 2620 THEN "Mid Tenure"  
ELSE "High Tenure"  
END
```

Multilinear Regression

```
fit2ea <-lm(MntTotal~Income+NumCatalogPurchases + Kidhome  
,ifood);summary(fit2ea)
```

K-means Cluster

```
kmeans_result <- kmeans(scaled_data, centers = 3, nstart = 25)
```