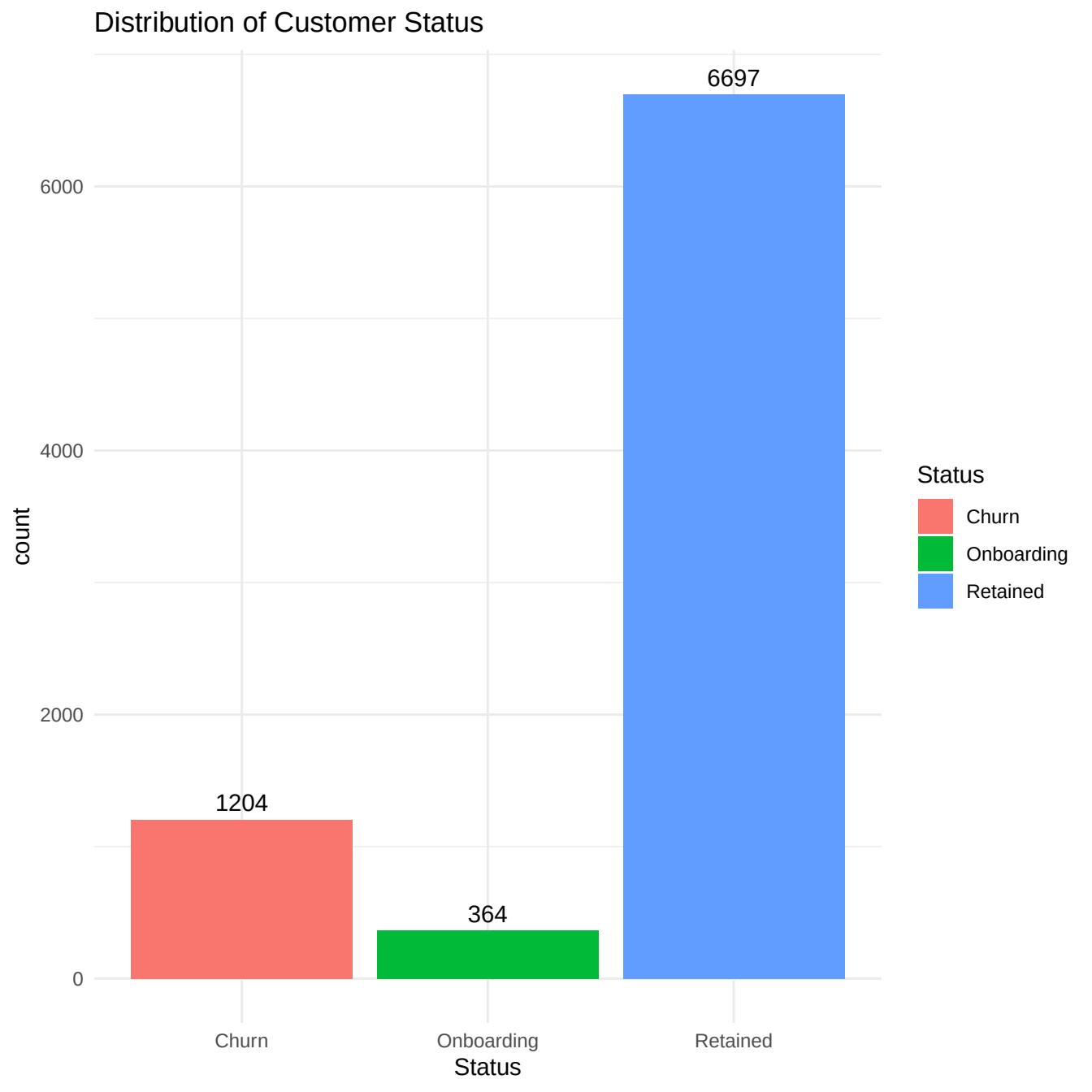
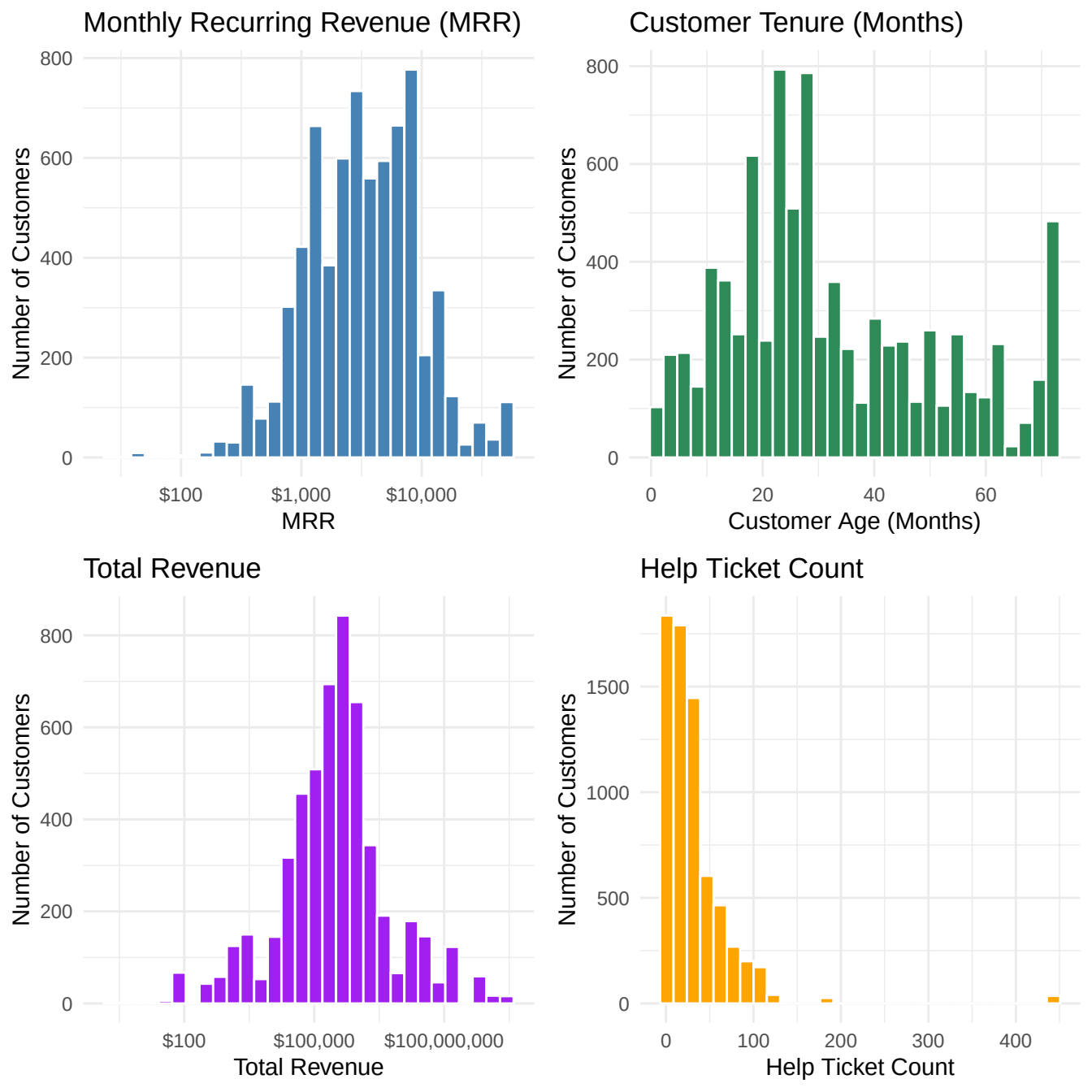
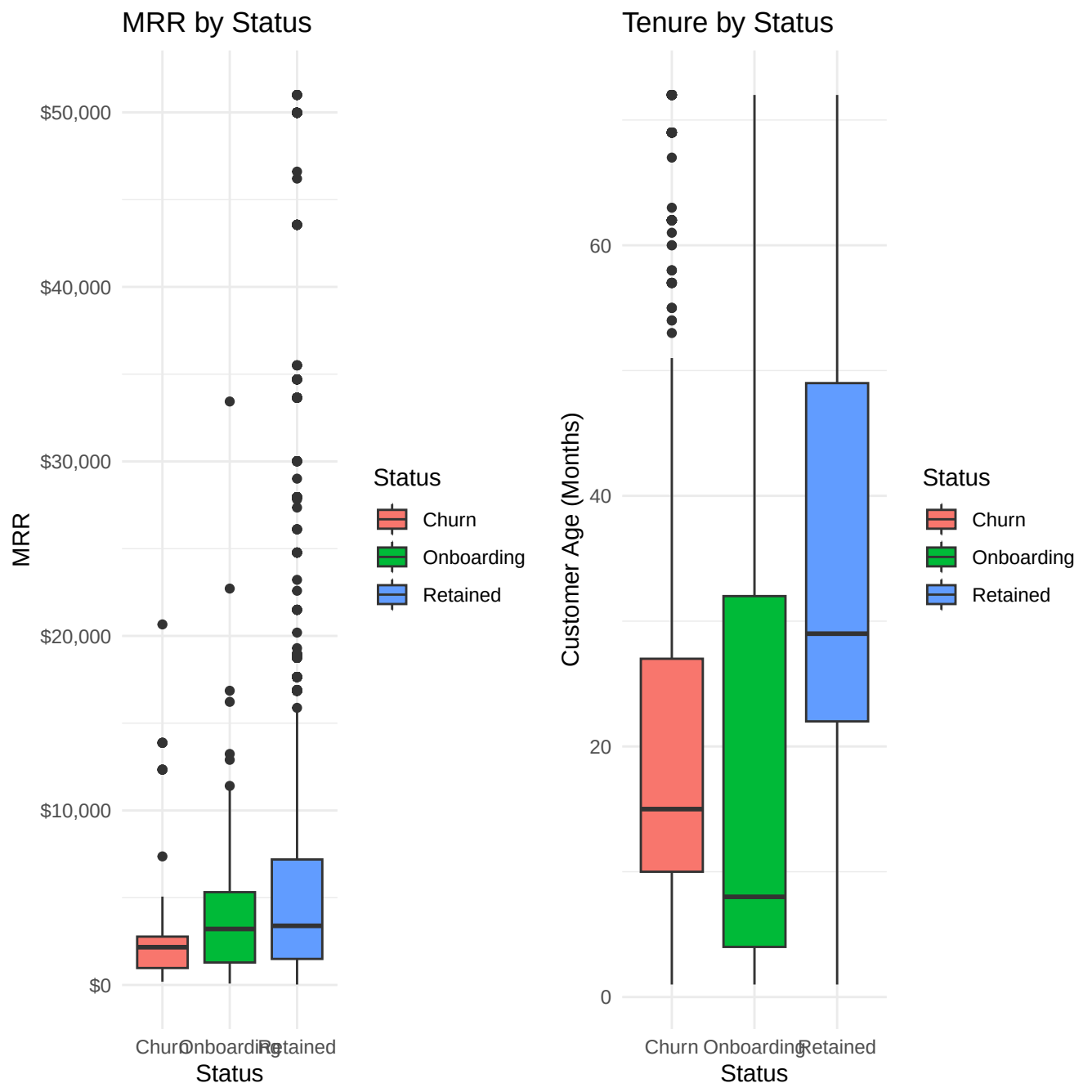
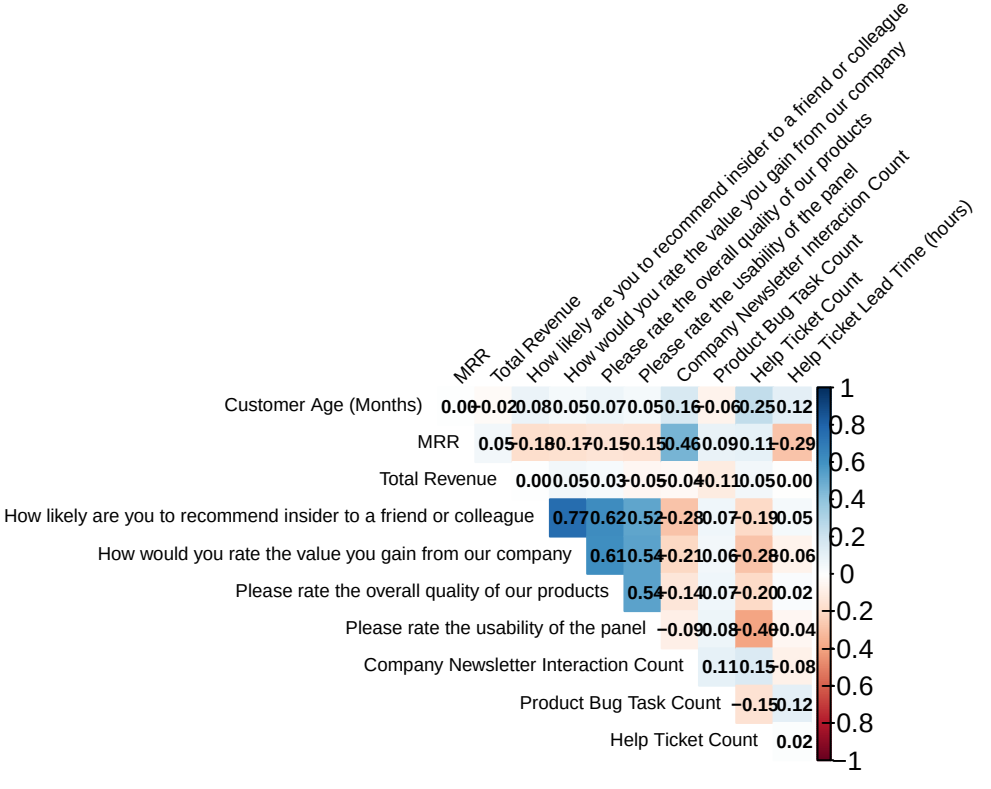
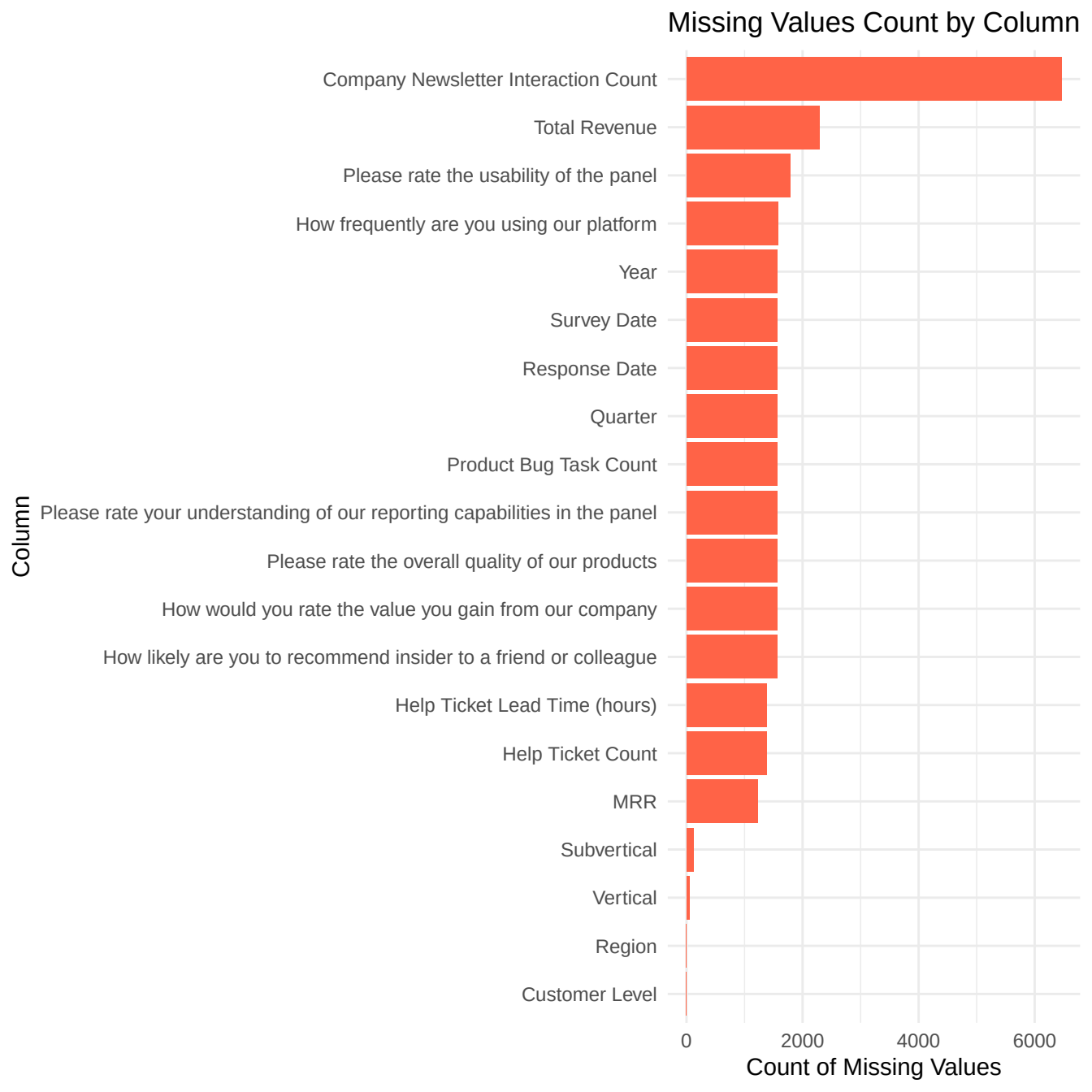
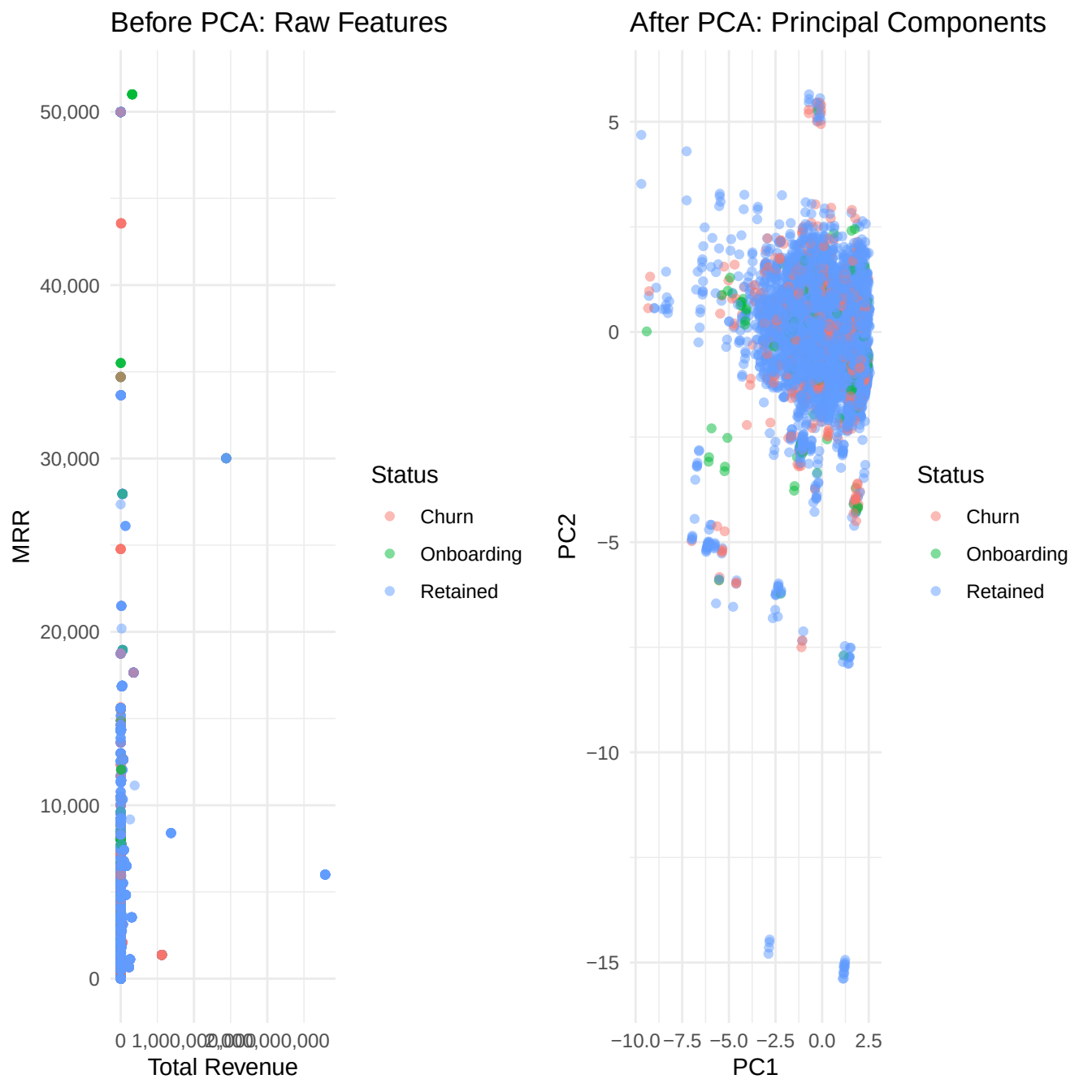

Distribution of Customer Status
6697
1204
364
6000
4000
2000
0
count
Churn
Onboarding
Retained
Status
Status
Churn
Onboarding
Retained

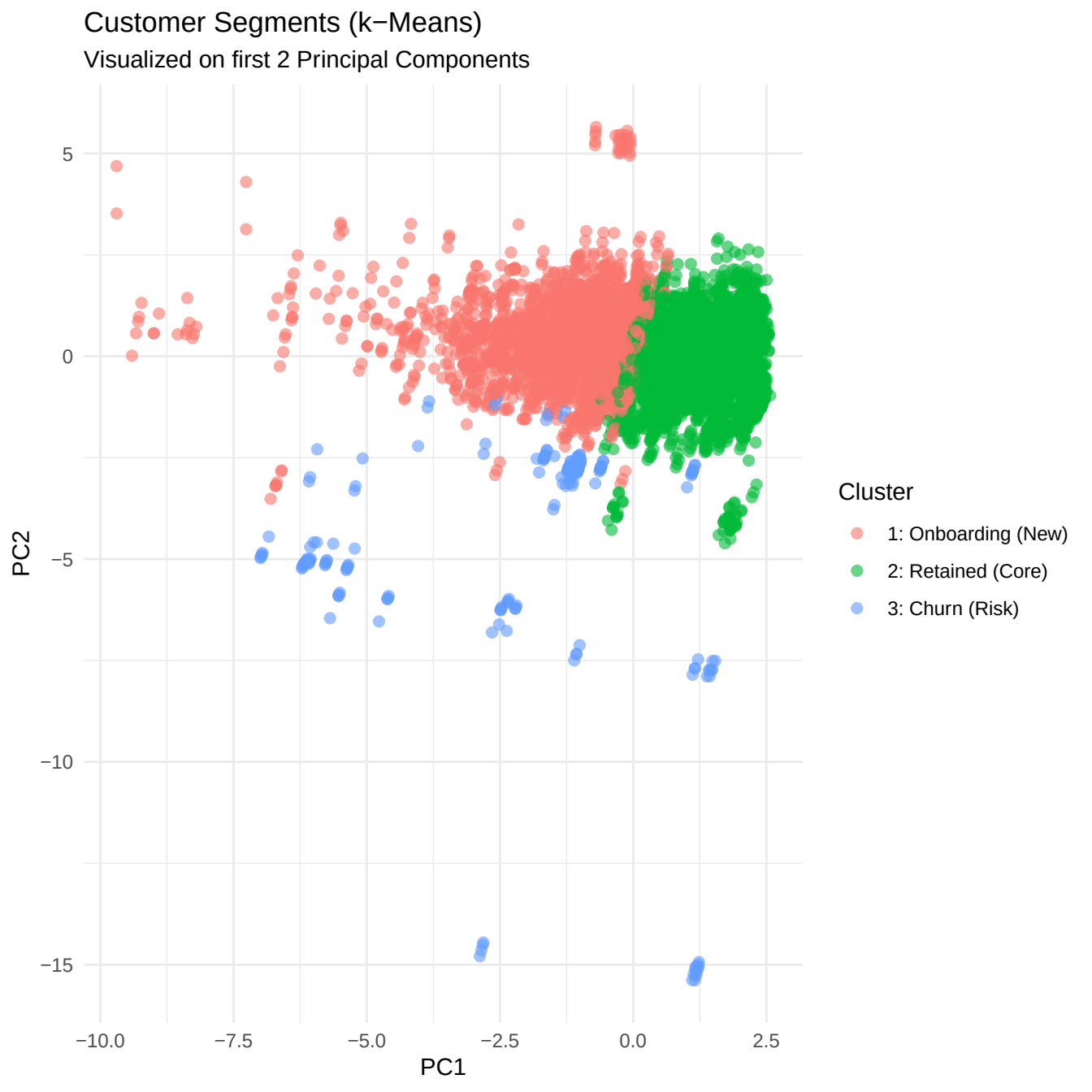

Monthly Recurring Revenue (MRR)
Number of Customers
800
600
400
200
0
$100
$1,000
$10,000
MRR
Customer Tenure (Months)
Number of Customers
800
600
400
200
0
0
20
40
60
Customer Age (Months)
Total Revenue
Number of Customers
800
600
400
200
0
$100
$100,000
$100,000,000
Total Revenue
Help Ticket Count
Number of Customers
1500
1000
500
0
0
100
200
300
400
Help Ticket Count


MRR by Status
$50,000
$40,000
$30,000
$20,000
$10,000
$0
MRR
Churn
Onboarding
Retained
Status
Status
Churn
Onboarding
Retained
Tenure by Status
60
40
20
0
Customer Age (Months)
Churn
Onboarding
Retained
Status
Status
Churn
Onboarding
Retained

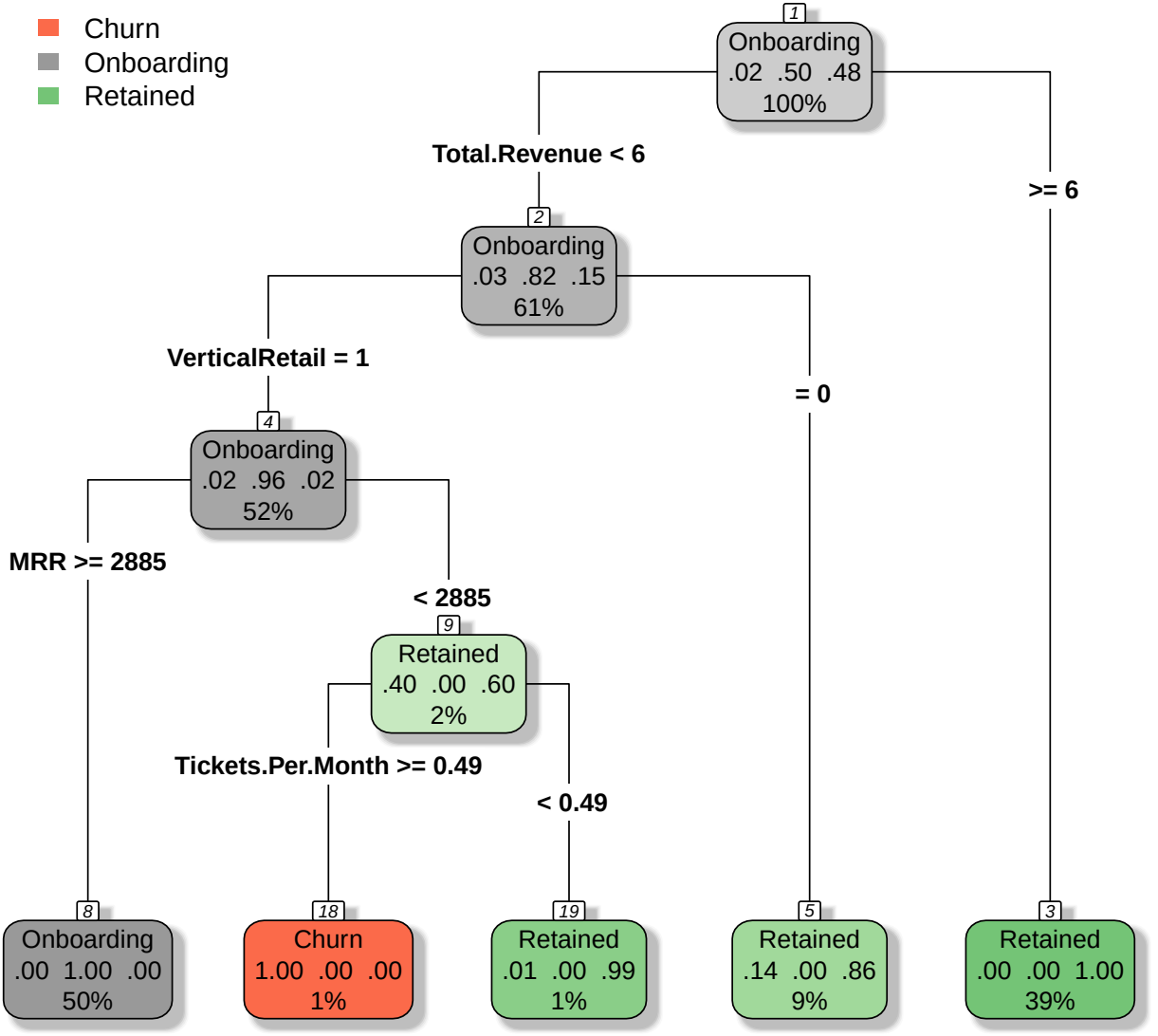

MRR
Total Revenue
How likely are you to recommend insider to a friend or colleague
How would you rate the value you gain from our company
Please rate the overall quality of our products
Please rate the usability of the panel
Company Newsletter Interaction Count
Product Bug Task Count
Help Ticket Count
Help Ticket Lead Time (hours)
Customer Age (Months) 0.00 -0.02 0.08 0.05 0.07 0.05 0.16 -0.06 0.25 0.12
MRR 0.05 -0.18 0.17 0.15 0.15 0.46 0.09 0.11 -0.29
Total Revenue 0.00 0.05 0.03 -0.05 0.04 0.11 0.05 0.00
How likely are you to recommend insider to a friend or colleague 0.77 0.62 0.52 -0.28 0.07 -0.19 0.05
How would you rate the value you gain from our company 0.61 0.54 -0.21 0.06 -0.28 0.06
Please rate the overall quality of our products 0.54 -0.14 0.07 -0.20 0.02
Please rate the usability of the panel −0.09 0.08 -0.40 0.04
Company Newsletter Interaction Count 0.11 0.15 -0.08
Product Bug Task Count −0.15 0.12
Help Ticket Count 0.02
1
0.8
0.6
0.4
0.2
0
−0.2
−0.4
−0.6
−0.8
−1

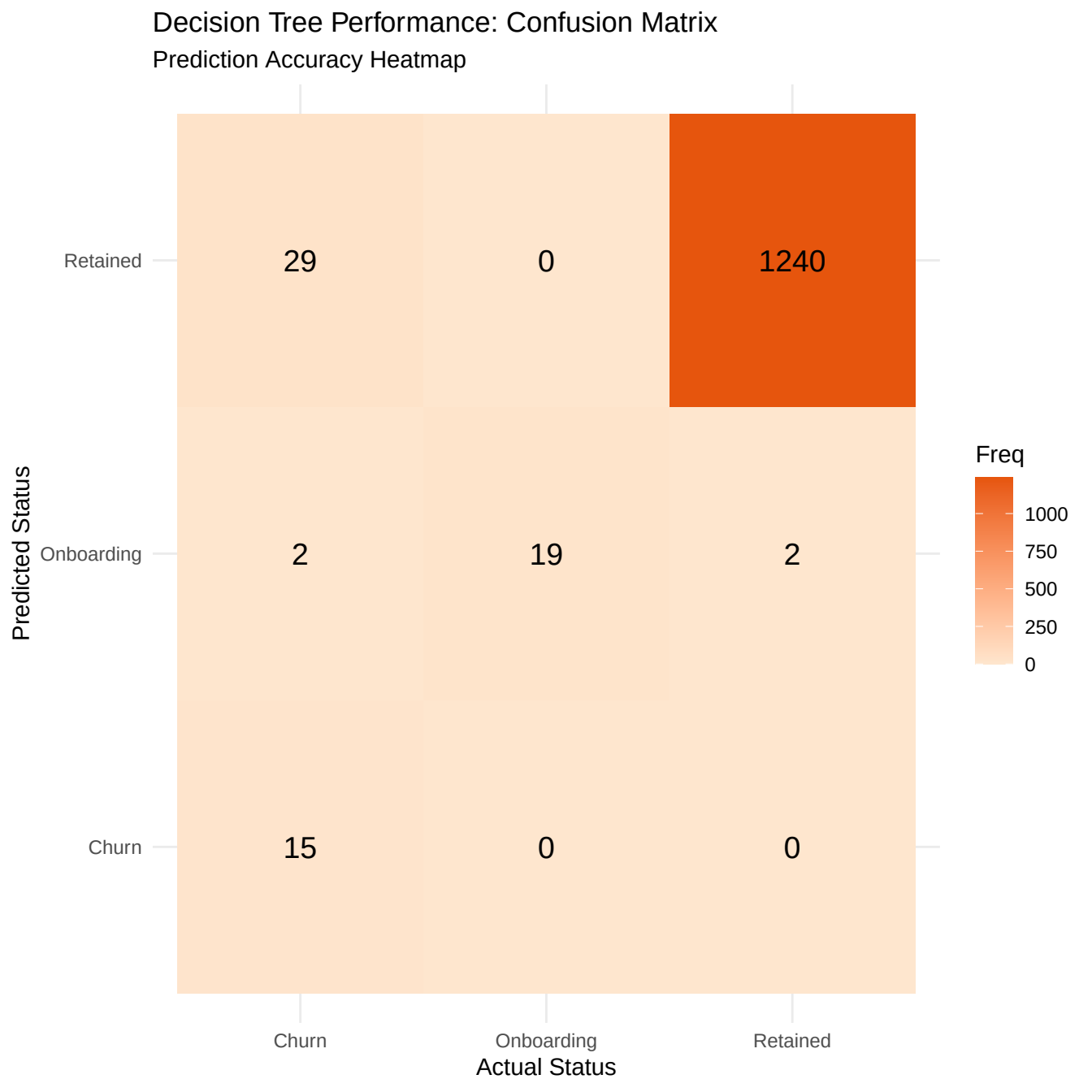

Missing Values Count by Column
Company Newsletter Interaction Count
Total Revenue
Please rate the usability of the panel
How frequently are you using our platform
Year
Survey Date
Response Date
Quarter
Product Bug Task Count
Please rate your understanding of our reporting capabilities in the panel
Please rate the overall quality of our products
How would you rate the value you gain from our company
How likely are you to recommend insider to a friend or colleague
Help Ticket Lead Time (hours)
Help Ticket Count
MRR
Subvertical
Vertical
Region
Customer Level
Column
0
2000
4000
6000
Count of Missing Values

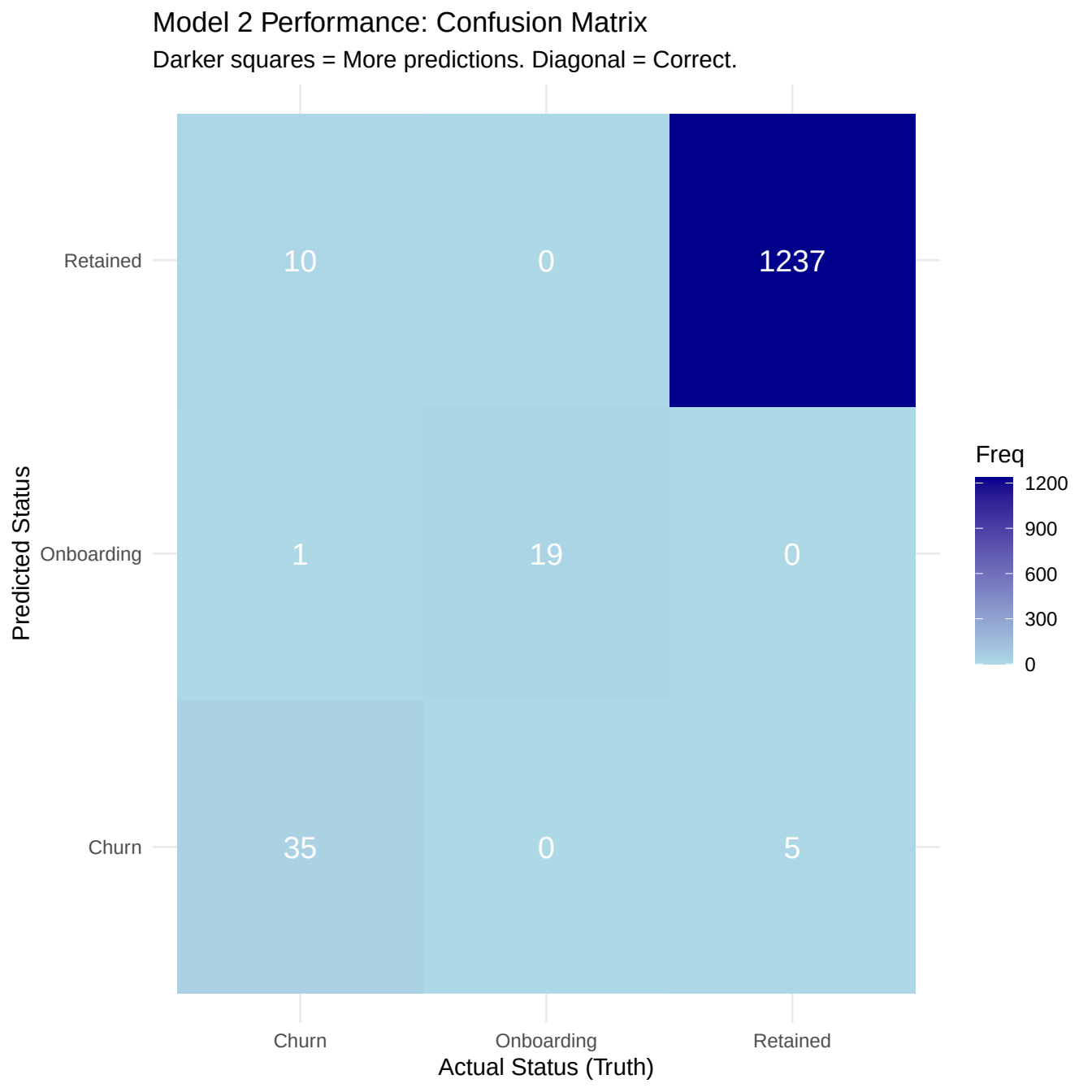

Before PCA: Raw Features
MRR
50,000
40,000
30,000
20,000
10,000
0
0
1,000,000,000
2,000,000,000
Total Revenue
Status
Churn
Onboarding
Retained
After PCA: Principal Components
PC2
5
0
−5
−10
−15
−10.0
−7.5
−5.0
−2.5
0.0
2.5
PC1
Status
Churn
Onboarding
Retained

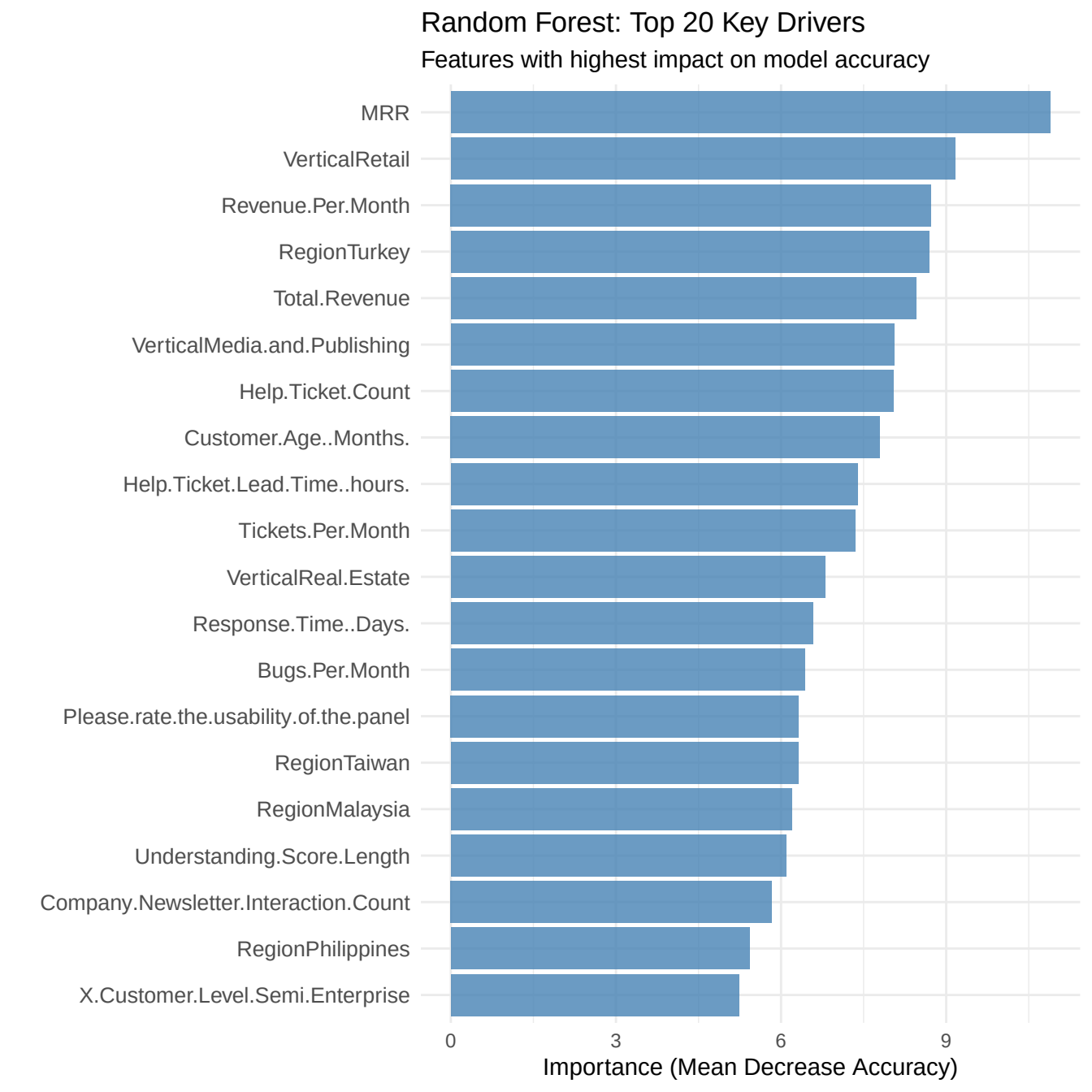

Customer Segments (k−Means)
Visualized on first 2 Principal Components
PC2
PC1
5
0
−5
−10
−15
−10.0
−7.5
−5.0
−2.5
0.0
2.5
Cluster
1: Onboarding (New)
2: Retained (Core)
3: Churn (Risk)

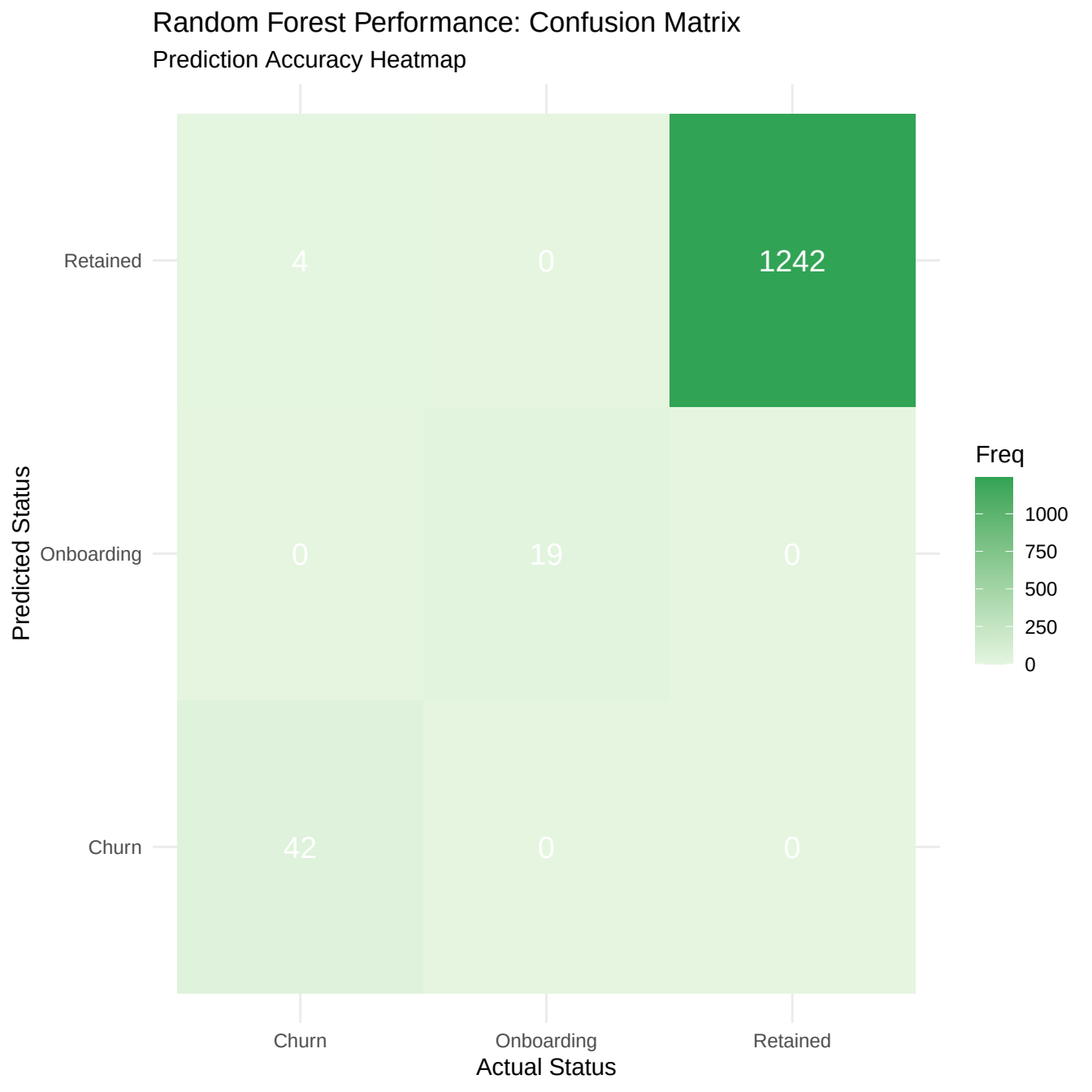
Decision Tree Rules (Pruned)

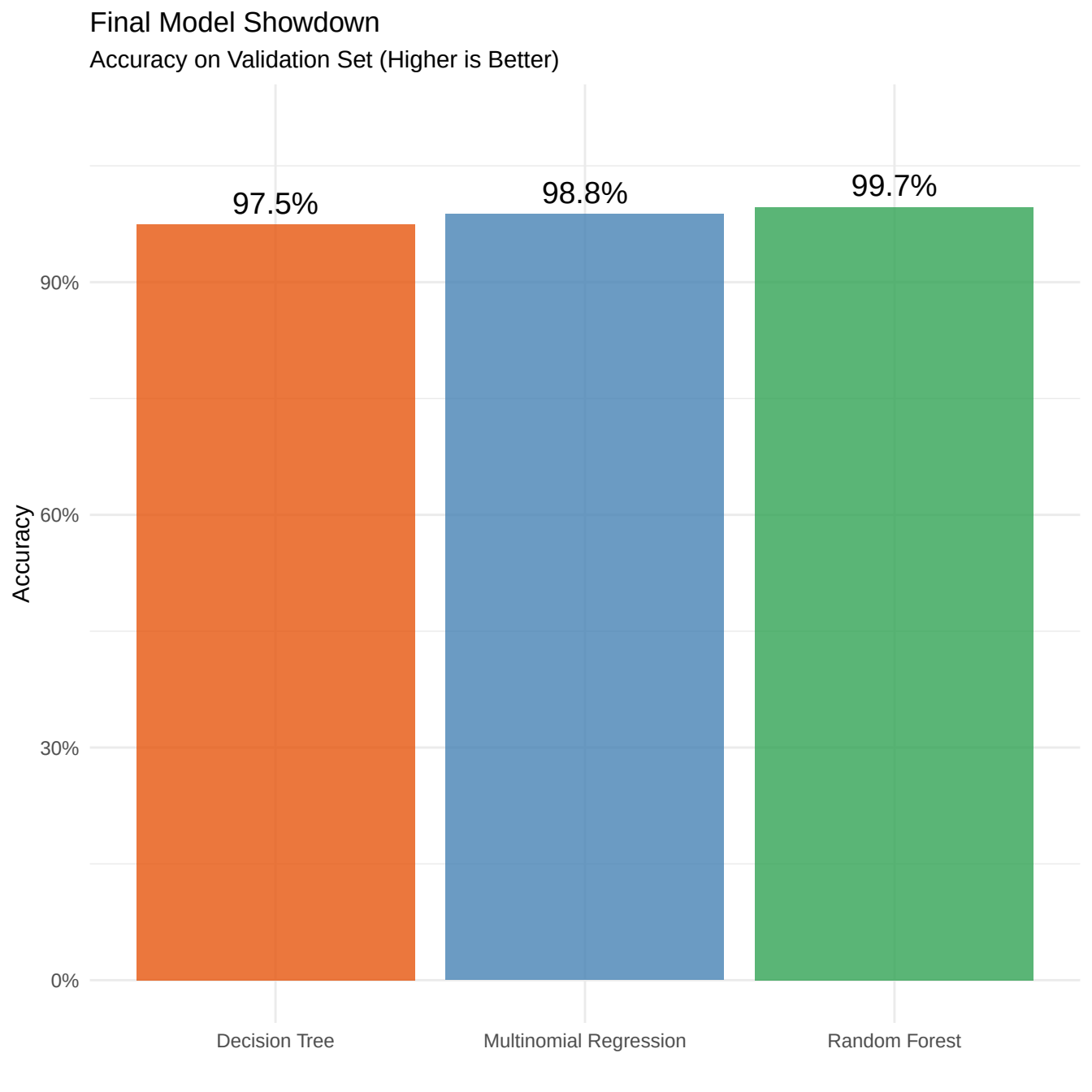


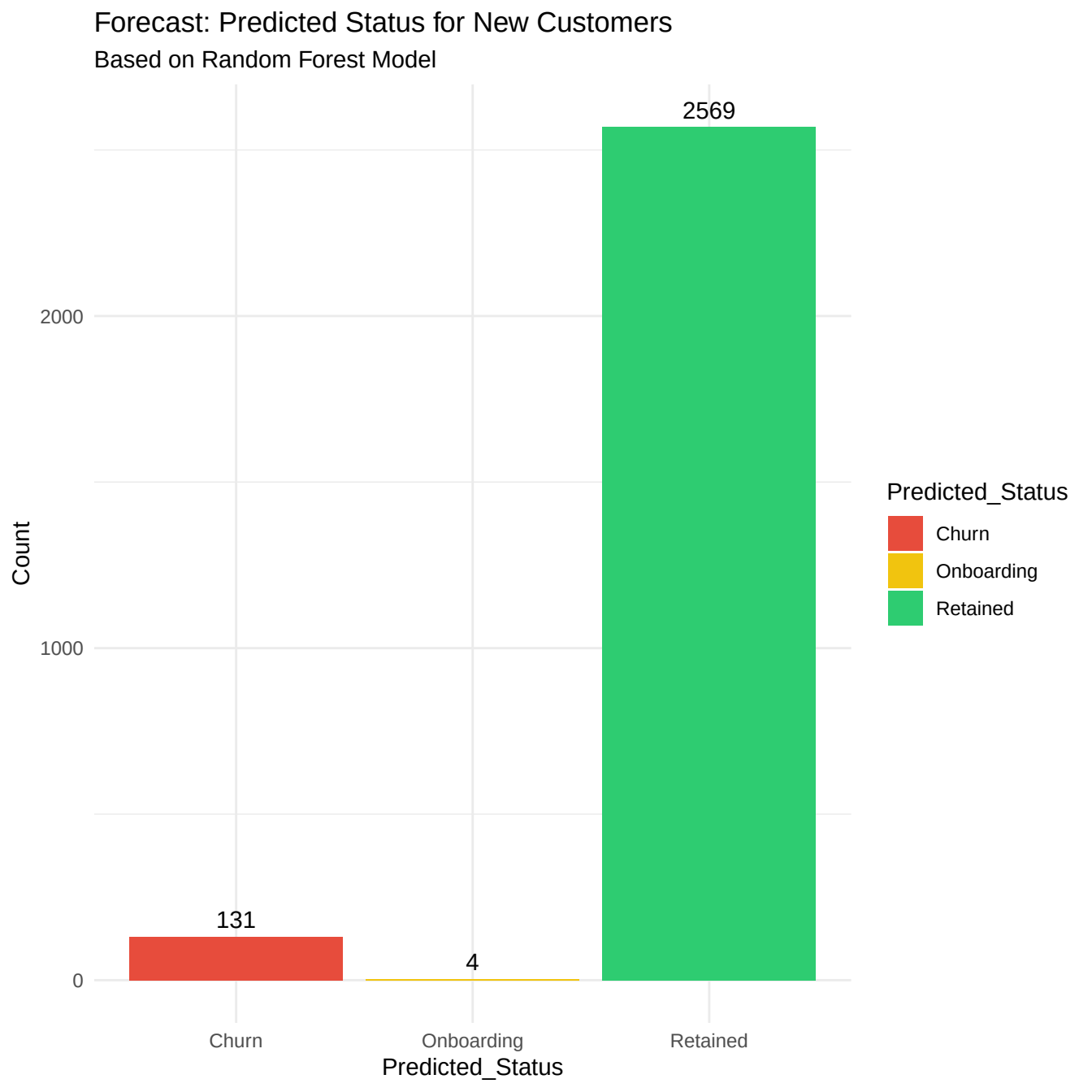

Decision Tree Performance: Confusion Matrix
Prediction Accuracy Heatmap
Retained
Onboarding
Churn
29
0
1240
2
19
2
15
0
0
Predicted Status
Churn
Onboarding
Retained
Actual Status
Freq
1000
750
500
250
0


Model 2 Performance: Confusion Matrix
Darker squares = More predictions. Diagonal = Correct.
Predicted Status
Retained
Onboarding
Churn
10
0
1237
1
19
0
35
0
5
Churn
Onboarding
Retained
Actual Status (Truth)
Freq
1200
900
600
300
0


Random Forest: Top 20 Key Drivers
Features with highest impact on model accuracy
MRR
VerticalRetail
Revenue.Per.Month
RegionTurkey
Total.Revenue
VerticalMedia.and.Publishing
Help.Ticket.Count
Customer.Age..Months.
Help.Ticket.Lead.Time..hours.
Tickets.Per.Month
VerticalReal.Estate
Response.Time..Days.
Bugs.Per.Month
Please.rate.the.usability.of.the.panel
RegionTaiwan
RegionMalaysia
Understanding.Score.Length
Company.Newsletter.Interaction.Count
RegionPhilippines
X.Customer.Level.Semi.Enterprise
0
3
6
9
Importance (Mean Decrease Accuracy)


Random Forest Performance: Confusion Matrix
Prediction Accuracy Heatmap
Retained
Onboarding
Churn
Predicted Status
4
0
1242
0
19
0
42
0
0
Churn
Onboarding
Retained
Actual Status
Freq
1000
750
500
250
0


Final Model Showdown
Accuracy on Validation Set (Higher is Better)
97.5%
98.8%
99.7%
90%
60%
30%
0%
Accuracy
Decision Tree
Multinomial Regression
Random Forest


Forecast: Predicted Status for New Customers
Based on Random Forest Model
2569
131
4
2000
1000
0
Count
Churn
Onboarding
Retained
Predicted_Status
Predicted_Status
Churn
Onboarding
Retained