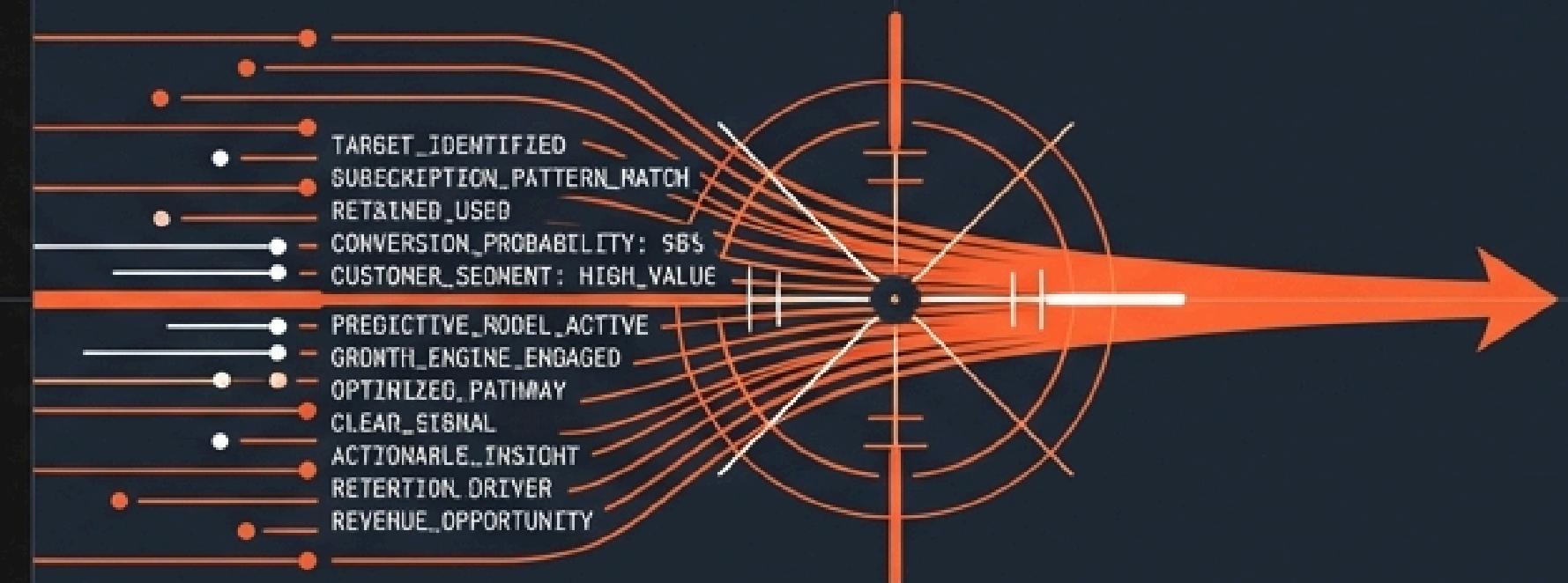


Unlocking Retention: Analyzing Credit Card Subscription Patterns

From raw interaction data to a targeted growth engine.

```
admin.  
student  
unknown  
session_timeout  
unverified_entry  
transaction_failed  
bounce_rate_high  
legacy_system_output  
raw_feed  
unsorted_metrics  
N/A  
null  
undefined  
access_denied  
access_denied  
data_breach_alert  
unattributed_source
```



Raw Signals: Noise & Inconsistency

Job	Education	Default	Loasing
student	Student	no	yes
student	Student	no	yes
student	admin.	no	yes
student	Primary School	No	Yes
student	Secondary School	No	Yes
student	High School	No	Yes
unknown	unknown	no	no
student	single	no	yes
student	married	no	yes
student	married	no	yes
student	single	no	yes

Clean Intelligence: Standardized & Categorized

Job	Education	Default	Loasing
Student	Student	No	Yes
Admin	Admin	No	Yes
Primary School	Primary School	No	Yes
Secondary School	Secondary School	No	Yes
High School	High School	No	Yes
Unknown	Unknown	No	No
Single	Single	No	Yes
Married	Married	No	Yes
No	No	No	No
Yes	Yes	No	No

- Standardization:** Applied PROPER() function to fix casing errors.
- Handling Unknowns:** Categorized missing values to prevent skew.
- Unification:** Merged duplicate categories (e.g., "admin." to "Admin").

The Data Dictionary: Defining Variables



Job & Education:
Employment type and qualification level.



Marital Status:
Segmented into Married, Single, Divorced.



Contact Method:
Cellular vs. Telephone Landlines.



Duration: Length of last contact in seconds (Engagement Proxy).



Target (y): Subscription
Subscription Status.
'Yes' = Conversion.



Executive Overview: The Baseline

Total Contacts

30,488

JetBrains Mono

Conversion Rate

12.66%

JetBrains Mono

Actual Subscribed

3,859

JetBrains Mono

Avg Call Duration

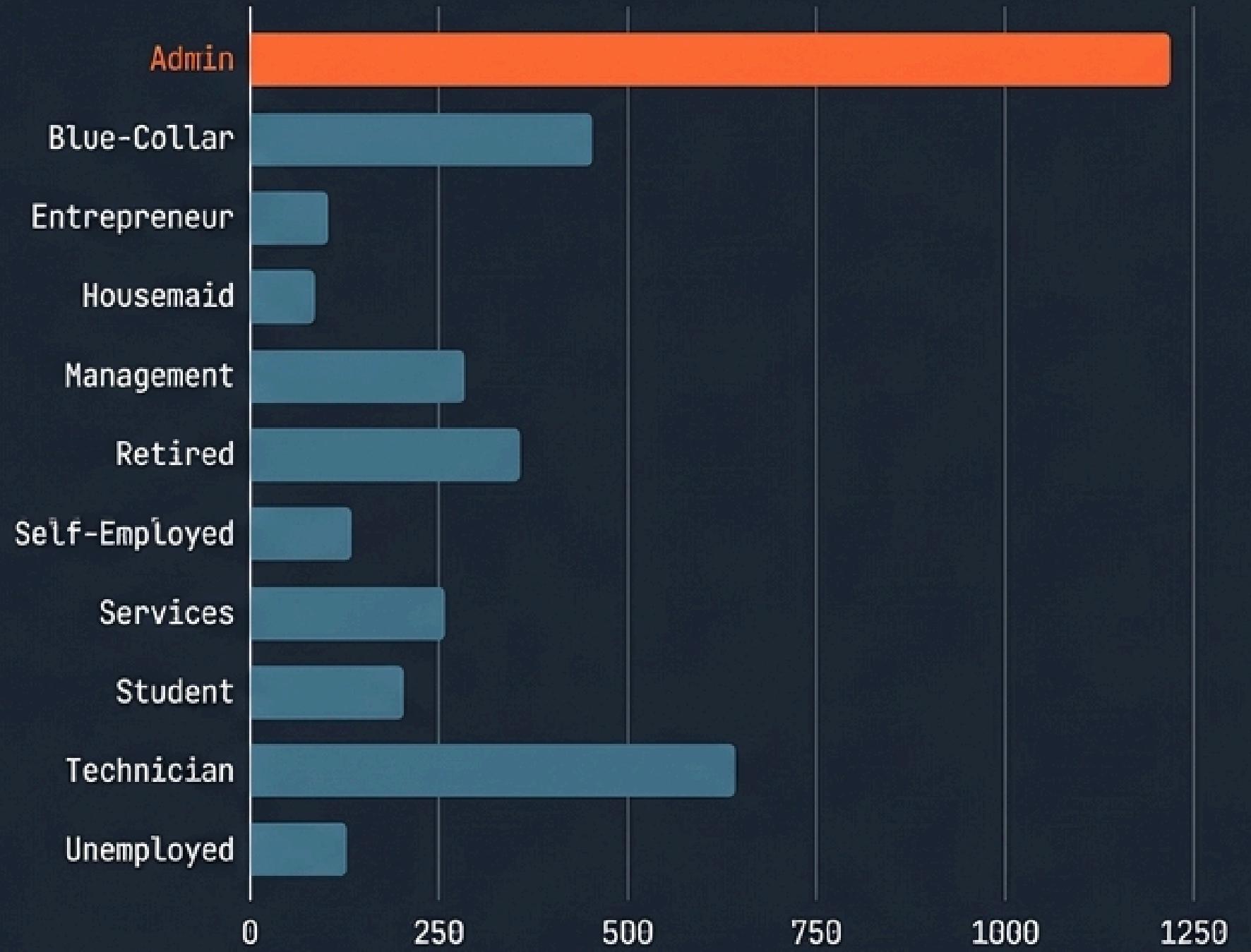
259 Sec

JetBrains Mono

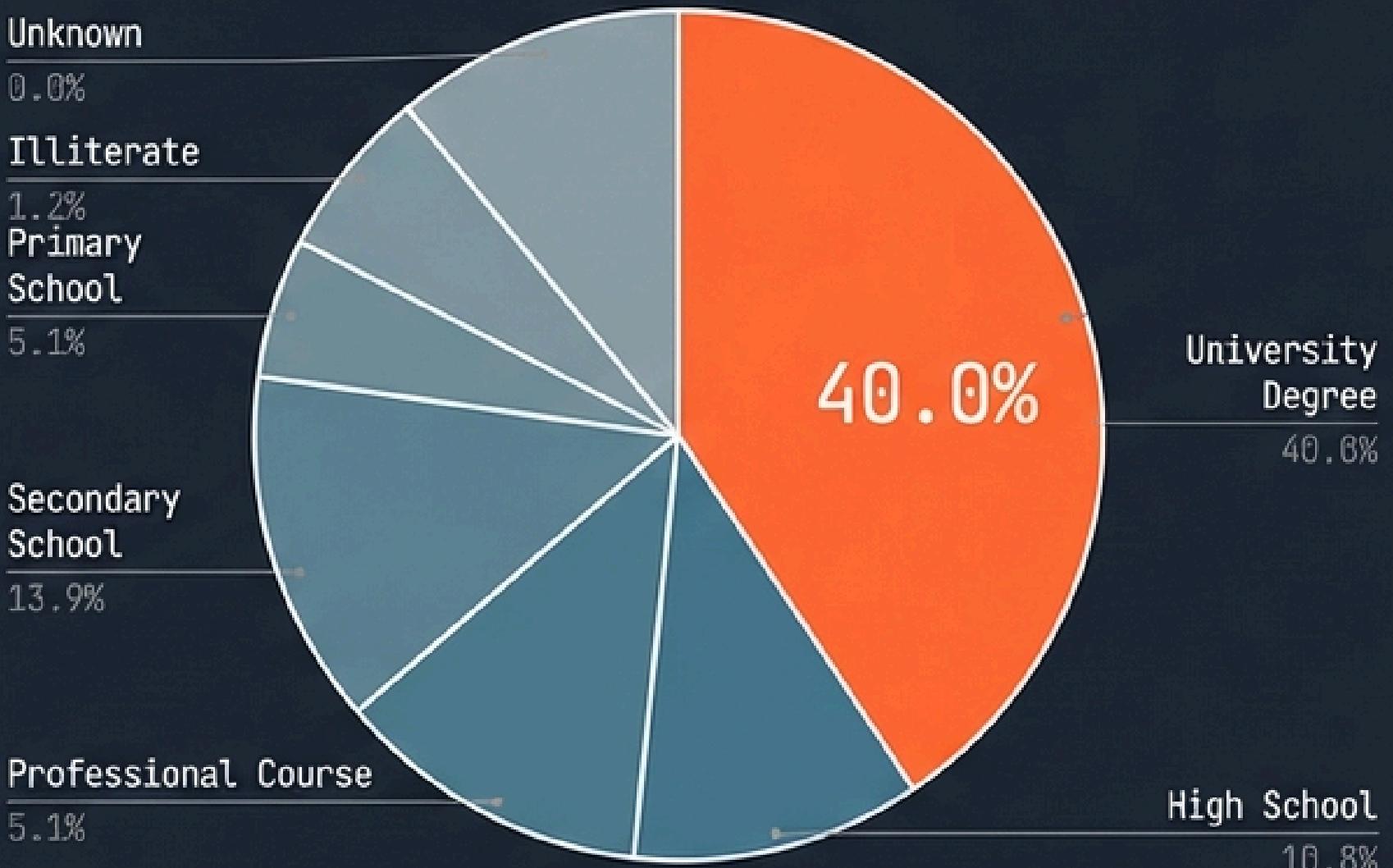
Baseline metrics derived from cleaned historical dataset.

Demographics: Identifying the High-Value Persona

Subscription by Job Role



Education Correlation

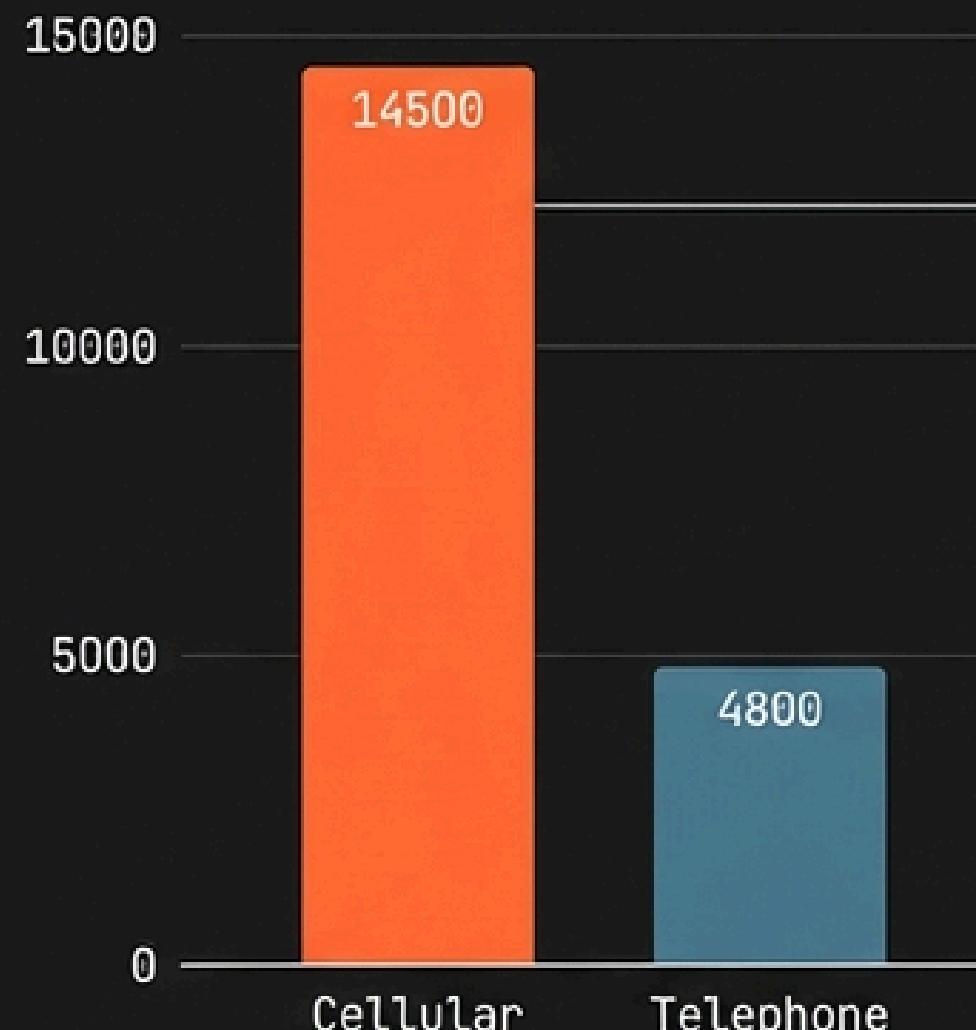


The Ideal Profile:
Administrative Professionals
with University Degrees.

Engagement Drivers: The 'How' Matters

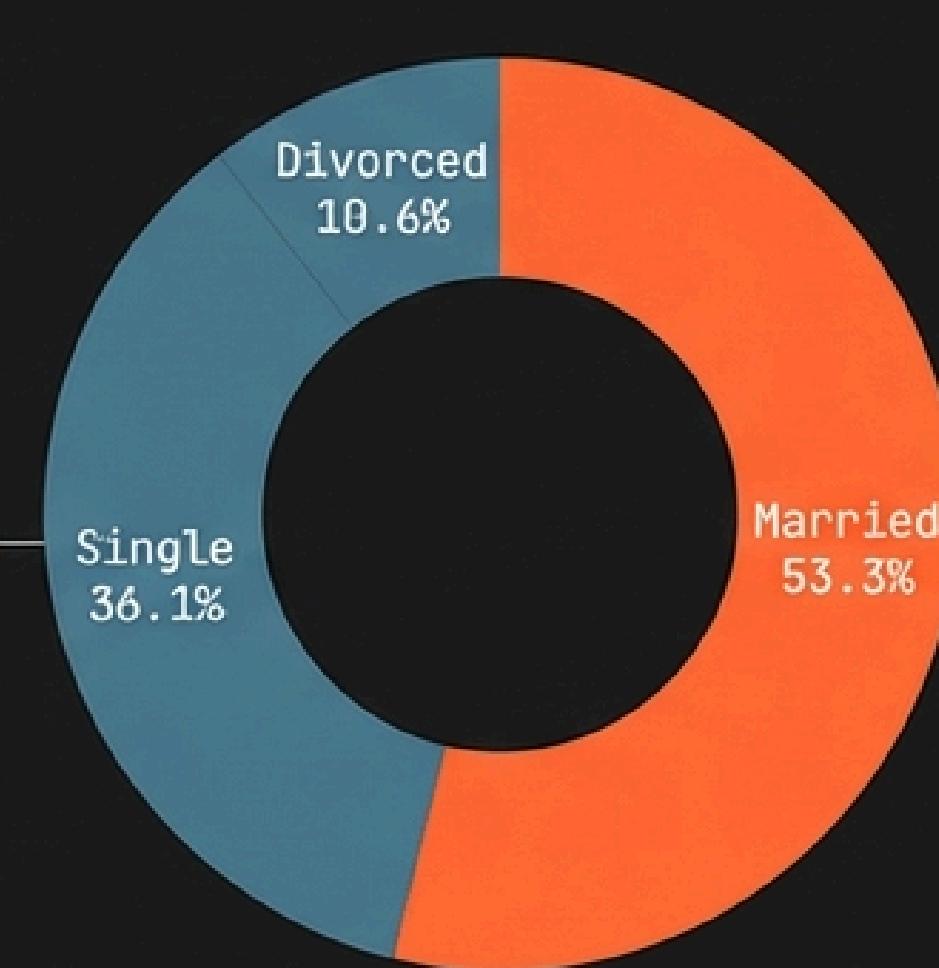
Contact Method Impact

JetBrains Mono



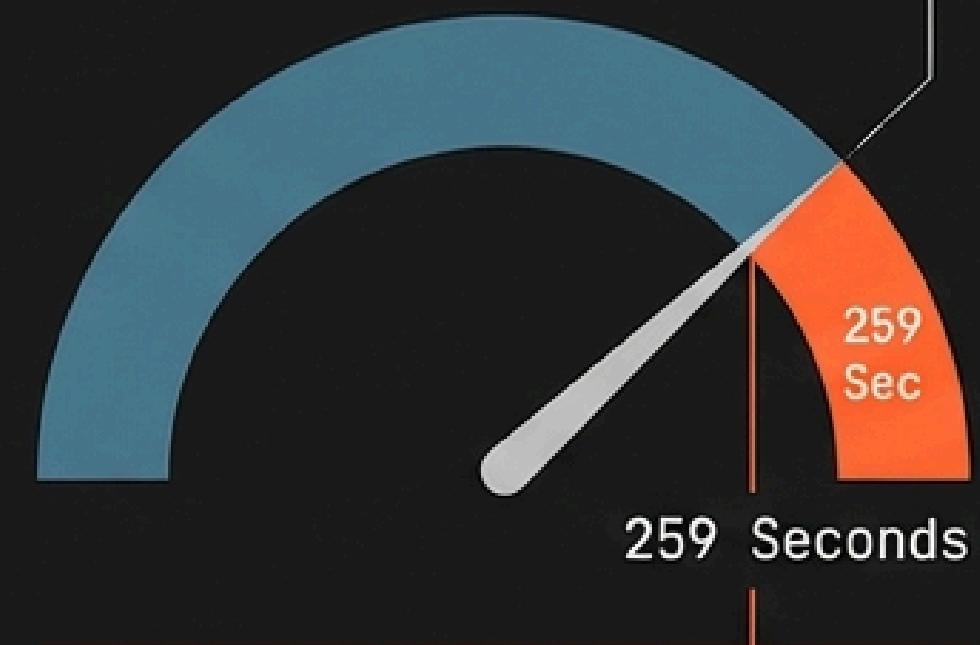
Marital Status

JetBrains Mono



Call Duration

JetBrains Mono



Success Threshold: Calls exceeding 4 minutes correlate with higher conversion.

Strategic Roadmap: Campaign Optimization

Targeting: Prioritize **University** Graduates & **Married** Segments.

Channel: Shift budget to **Cellular**. Deprioritize Landlines.

Engagement: Incentivize call durations **> 259 seconds**.

Month Converted Trend



Action Plan: Execute high-touch cellular campaigns focusing on educated, married professionals in May.

Business Impact: Moving the Needle



Efficiency: Reduce wasted ad spend on low-converting landlines: **5.41%**



Precision: Focus sales force on high-probability Admin/Univ leads: **19.97%**

12.66%



15.79%

Conversion Rate Increased



Quality: Shift KPI from "Calls Per Hour" to "Quality Conversations": **3:00 min** avg.

Limitations & The Path to Prediction

