

# Data Assessment Report: Country-Cohort Purchase Behavior and Revenue Optimization Analysis for an OTT Subscription Business

## Executive Summary

Marketing spend increased while revenue targets stalled. Using the provided Country x Cohort Advanced Metrics we compute the four required management metrics for every country and both cohorts and extend them with decision fields. We identify segments to prioritize based on LTV-weighted new customers, repeat rate, and time-to-repeat, and present 10 targeted proposals tied to those metrics.

## Introduction and Background

Problem - ads are not lifting monthly revenue as expected. Hypothesis - focus is not on the pools that yield high lifetime value. Goal - quantify purchase behavior by country and cohort to guide budget and lifecycle actions that increase revenue and LTV.

## Data and Methodology

Sources:

- Country x Cohort Advanced Metrics.xlsx - main analysis table used in this report
- DA2\_analysis.ipynb - notebook that produced the country x cohort table (referenced)
- REPORT.md - prior narrative (referenced)

Cohorts: Non-Offer First Joiners (no promo at first purchase) and Offer First Joiners (promo used at first purchase).

Required metrics computed per country and cohort: New Customers, First Revenue, Repeat Customers, Repeat Revenue.

Derived metrics: First ARPU = First Revenue ÷ New Customers; Repeat Rate = Repeat Customers ÷ New Customers; Avg LTV = (First Revenue + Repeat Revenue) ÷ New Customers; LTV-Weighted New Customers = Avg LTV × New Customers for prioritization.

Cohort window: I do not have verified information on exact dates inside the provided files. Analysis uses the supplied country x cohort table as-is.

## Key Findings and Analysis

### I. Purchase Behavior and Cohort Analysis

Table A presents the four required metrics by country and cohort for the full footprint. Table B extends with advanced fields and a rank by LTV-weighted new customers for actionable prioritization.

**Table A - Required Metrics by Country and Cohort**

Country	Cohort	New Customers	First Revenue	Repeat Customers	Repeat Revenue
Afghanistan	Non-Offer First Joiners	247.00	8,223.78	27.00	2,852.94
Afghanistan	Offer First Joiners	234.00	7,054.03	33.00	2,272.38
Albania	Non-Offer First Joiners	86.00	3,322.37	9.00	520.84
Albania	Offer First Joiners	49.00	1,953.56	10.00	421.66
Algeria	Non-Offer First Joiners	46.00	1,818.15	1.00	19.12
Algeria	Offer First Joiners	89.00	2,843.67	11.00	608.53
Angola	Non-Offer First Joiners	86.00	3,697.84	4.00	217.73
Angola	Offer First Joiners	42.00	1,485.20	4.00	272.40
Antigua and Barbuda	Non-Offer First Joiners	69.00	1,959.20	7.00	180.26
Antigua and Barbuda	Offer First Joiners	84.00	2,778.69	7.00	248.15
Argentina	Non-Offer First Joiners	79.00	2,597.62	11.00	2,089.16
Argentina	Offer First Joiners	66.00	2,151.62	15.00	1,981.16
Australia	Non-Offer First Joiners	9.00	263.61	0.00	0.00
Australia	Offer First Joiners	8.00	160.80	0.00	0.00
Austria	Non-Offer First Joiners	94.00	3,381.16	11.00	487.98
Austria	Offer First Joiners	49.00	1,819.01	6.00	100.35
Bahamas	Non-Offer First Joiners	19.00	811.47	1.00	61.20
Bahamas	Offer First	12.00	379.57	2.00	165.26

	Joiners				
<b>Bahrain</b>	Non-Offer First Joiners	252.00	11,437.61	23.00	1,287.61
<b>Bahrain</b>	Offer First Joiners	246.00	9,858.32	32.00	1,437.42
<b>Bangladesh</b>	Non-Offer First Joiners	61.00	2,927.23	6.00	398.06
<b>Bangladesh</b>	Offer First Joiners	82.00	3,109.73	15.00	1,026.72
<b>Barbados</b>	Non-Offer First Joiners	7.00	183.59	1.00	38.55
<b>Barbados</b>	Offer First Joiners	8.00	216.80	1.00	79.86
<b>Barbuda</b>	Non-Offer First Joiners	57.00	2,322.69	3.00	497.89
<b>Barbuda</b>	Offer First Joiners	92.00	3,141.05	15.00	1,360.58
<b>Belarus</b>	Non-Offer First Joiners	70.00	3,142.43	4.00	1,130.73
<b>Belarus</b>	Offer First Joiners	72.00	2,453.42	8.00	921.94
<b>Belarus (Republic)</b>	Non-Offer First Joiners	109.00	4,111.86	13.00	822.38
<b>Belarus (Republic)</b>	Offer First Joiners	47.00	1,246.40	4.00	177.37
<b>Belgium</b>	Non-Offer First Joiners	8.00	151.59	0.00	0.00
<b>Belgium</b>	Offer First Joiners	3.00	101.13	0.00	0.00
<b>Belize</b>	Non-Offer First Joiners	4.00	222.86	0.00	0.00
<b>Belize</b>	Offer First Joiners	5.00	168.07	1.00	12.39
<b>Bhutan</b>	Non-Offer First Joiners	51.00	1,450.11	4.00	159.37
<b>Bhutan</b>	Offer First Joiners	96.00	3,171.44	16.00	775.70
<b>Bolivia</b>	Non-Offer First Joiners	55.00	1,647.68	5.00	59.87
<b>Bolivia</b>	Offer First Joiners	71.00	3,021.38	14.00	555.46
<b>Bosnia and Herzegovina</b>	Non-Offer First Joiners	279.00	10,377.63	31.00	1,940.66
<b>Bosnia and Herzegovina</b>	Offer First Joiners	164.00	6,851.11	20.00	1,041.72
<b>Botswana</b>	Non-Offer First Joiners	10.00	373.86	0.00	0.00
<b>Botswana</b>	Offer First Joiners	6.00	414.81	0.00	0.00

<b>Brazil</b>	Non-Offer First Joiners	9.00	189.17	0.00	0.00
<b>Brazil</b>	Offer First Joiners	3.00	52.14	1.00	5.92
<b>Bulgaria</b>	Non-Offer First Joiners	50.00	2,085.28	3.00	101.58
<b>Bulgaria</b>	Offer First Joiners	79.00	2,617.40	16.00	424.77
<b>Burundi</b>	Non-Offer First Joiners	49.00	1,476.64	3.00	47.97
<b>Burundi</b>	Offer First Joiners	80.00	2,738.85	6.00	206.02
<b>Cabo Verde</b>	Non-Offer First Joiners	5.00	111.21	1.00	30.57
<b>Cabo Verde</b>	Offer First Joiners	14.00	408.07	0.00	0.00

Showing first 50 rows of 313 total. Full CSV attached.

**Table B - Advanced Country x Cohort Decision Table**

Country	Cohort	New Customers	First Revenue	Repeat Customers	Repeat Revenue	First ARP U	Repeat Rate	Avg LTV	Median Days To Repeat	Offer Share	LTV-Weighted New Customers	Rank by LTV-Weighted NC
<b>Afghanistan</b>	Non-Offer First Joiners	247.00	8,223.78	27.00	2,852.94	33.29	0.11	44.85	12.00	0.49	11,076.72	10.00
<b>Afghanistan</b>	Offer First Joiners	234.00	7,054.03	33.00	2,272.38	30.15	0.14	39.86	24.00	0.49	9,326.41	15.00
<b>Albania</b>	Non-Offer First Joiners	86.00	3,322.37	9.00	520.84	38.63	0.10	44.69	32.00	0.36	3,843.21	76.00
<b>Albania</b>	Offer First Joiners	49.00	1,953.56	10.00	421.66	39.87	0.20	48.47	30.50	0.36	2,375.22	171.00
<b>Algeria</b>	Non-Offer First Joiners	46.00	1,818.15	1.00	19.12	39.52	0.02	39.94	63.00	0.66	1,837.27	203.00
<b>Algeria</b>	Offer First Joiners	89.00	2,843.67	11.00	608.53	31.95	0.12	38.79	40.00	0.66	3,452.20	96.00
<b>Angola</b>	Non-Offer First Joiners	86.00	3,697.84	4.00	217.73	43.00	0.05	45.53	30.50	0.33	3,915.57	73.00

<b>Angola</b>	Offer First Joine rs	42.00	1,485.20	4.00	272.40	35.36	0.10	41.85	36.50	0.33	1,757.60	206.00
<b>Antigua and Barbuda</b>	Non- Offer First Joine rs	69.00	1,959.20	7.00	180.26	28.39	0.10	31.01	11.00	0.55	2,139.46	184.00
<b>Antigua and Barbuda</b>	Offer First Joine rs	84.00	2,778.69	7.00	248.15	33.08	0.08	36.03	21.00	0.55	3,026.84	125.00
<b>Argentina</b>	Non- Offer First Joine rs	79.00	2,597.62	11.00	2,089.16	32.88	0.14	59.33	39.00	0.46	4,686.78	43.00
<b>Argentina</b>	Offer First Joine rs	66.00	2,151.62	15.00	1,981.16	32.60	0.23	62.62	12.00	0.46	4,132.78	59.00
<b>Australia</b>	Non- Offer First Joine rs	9.00	263.61	0.00	0.00	29.29	0.00	29.29	nan	0.47	263.61	275.00
<b>Australia</b>	Offer First Joine rs	8.00	160.80	0.00	0.00	20.10	0.00	20.10	nan	0.47	160.80	296.00
<b>Austria</b>	Non- Offer First Joine rs	94.00	3,381.16	11.00	487.98	35.97	0.12	41.16	29.00	0.34	3,869.14	74.00
<b>Austria</b>	Offer First Joine rs	49.00	1,819.01	6.00	100.35	37.12	0.12	39.17	24.50	0.34	1,919.36	199.00
<b>Bahamas</b>	Non- Offer First Joine rs	19.00	811.47	1.00	61.20	42.71	0.05	45.93	32.00	0.39	872.67	223.00
<b>Bahamas</b>	Offer First Joine rs	12.00	379.57	2.00	165.26	31.63	0.17	45.40	16.00	0.39	544.83	233.00
<b>Bahrain</b>	Non- Offer First Joine rs	252.00	11,437.61	23.00	1,287.61	45.39	0.09	50.50	23.00	0.49	12,725.22	4.00
<b>Bahrain</b>	Offer First Joine rs	246.00	9,858.32	32.00	1,437.42	40.07	0.13	45.92	30.00	0.49	11,295.74	9.00
<b>Banglade sh</b>	Non- Offer First Joine rs	61.00	2,927.23	6.00	398.06	47.99	0.10	54.51	44.50	0.57	3,325.29	105.00
<b>Banglade sh</b>	Offer First Joine rs	82.00	3,109.73	15.00	1,026.72	37.92	0.18	50.44	34.00	0.57	4,136.45	58.00
<b>Barbado</b>	Non-	7.00	183.59	1.00	38.55	26.2	0.14	31.	21.00	0.53	222.14	284.00

<b>s</b>	Offer First Joine rs					3		73				
<b>Barbado s</b>	Offer First Joine rs	8.00	216.80	1.00	79.86	27.10	0.12	37.08	68.00	0.53	296.66	265.00
<b>Barbuda</b>	Non-Offer First Joine rs	57.00	2,322.69	3.00	497.89	40.75	0.05	49.48	10.00	0.62	2,820.58	140.00
<b>Barbuda</b>	Offer First Joine rs	92.00	3,141.05	15.00	1,360.58	34.14	0.16	48.93	42.00	0.62	4,501.63	47.00
<b>Belarus</b>	Non-Offer First Joine rs	70.00	3,142.43	4.00	1,130.73	44.89	0.06	61.05	15.50	0.51	4,273.16	52.00
<b>Belarus</b>	Offer First Joine rs	72.00	2,453.42	8.00	921.94	34.08	0.11	46.88	25.50	0.51	3,375.36	99.00
<b>Belarus (Republi c)</b>	Non-Offer First Joine rs	109.00	4,111.86	13.00	822.38	37.72	0.12	45.27	39.00	0.30	4,934.24	38.00
<b>Belarus (Republi c)</b>	Offer First Joine rs	47.00	1,246.40	4.00	177.37	26.52	0.09	30.29	41.00	0.30	1,423.77	217.00
<b>Belgium</b>	Non-Offer First Joine rs	8.00	151.59	0.00	0.00	18.95	0.00	18.95	nan	0.27	151.59	297.00
<b>Belgium</b>	Offer First Joine rs	3.00	101.13	0.00	0.00	33.71	0.00	33.71	nan	0.27	101.13	306.00
<b>Belize</b>	Non-Offer First Joine rs	4.00	222.86	0.00	0.00	55.72	0.00	55.72	nan	0.56	222.86	283.00
<b>Belize</b>	Offer First Joine rs	5.00	168.07	1.00	12.39	33.61	0.20	36.09	19.00	0.56	180.46	293.00
<b>Bhutan</b>	Non-Offer First Joine rs	51.00	1,450.11	4.00	159.37	28.43	0.08	31.56	39.00	0.65	1,609.48	213.00
<b>Bhutan</b>	Offer First Joine rs	96.00	3,171.44	16.00	775.70	33.04	0.17	41.12	37.00	0.65	3,947.14	71.00
<b>Bolivia</b>	Non-Offer First Joine rs	55.00	1,647.68	5.00	59.87	29.96	0.09	31.05	66.00	0.56	1,707.55	211.00
<b>Bolivia</b>	Offer	71.00	3,021.3	14.00	555.46	42.5	0.20	50.	44.00	0.56	3,576.8	89.00

	First Joine rs		8			5		38			4	
<b>Bosnia and Herzego vina</b>	Non- Offer First Joine rs	279.00	10,377.63	31.00	1,940.66	37.20	0.11	44.15	27.00	0.37	12,318.29	6.00
<b>Bosnia and Herzego vina</b>	Offer First Joine rs	164.00	6,851.11	20.00	1,041.72	41.78	0.12	48.13	31.00	0.37	7,892.83	24.00
<b>Botswana</b>	Non- Offer First Joine rs	10.00	373.86	0.00	0.00	37.39	0.00	37.39	nan	0.38	373.86	253.00
<b>Botswana</b>	Offer First Joine rs	6.00	414.81	0.00	0.00	69.14	0.00	69.14	nan	0.38	414.81	244.00
<b>Brazil</b>	Non- Offer First Joine rs	9.00	189.17	0.00	0.00	21.02	0.00	21.02	nan	0.25	189.17	290.00
<b>Brazil</b>	Offer First Joine rs	3.00	52.14	1.00	5.92	17.38	0.33	19.35	80.00	0.25	58.06	312.00
<b>Bulgaria</b>	Non- Offer First Joine rs	50.00	2,085.28	3.00	101.58	41.71	0.06	43.74	37.00	0.61	2,186.86	183.00
<b>Bulgaria</b>	Offer First Joine rs	79.00	2,617.40	16.00	424.77	33.13	0.20	38.51	34.00	0.61	3,042.17	123.00
<b>Burundi</b>	Non- Offer First Joine rs	49.00	1,476.64	3.00	47.97	30.14	0.06	31.11	26.00	0.62	1,524.61	215.00
<b>Burundi</b>	Offer First Joine rs	80.00	2,738.85	6.00	206.02	34.24	0.07	36.81	44.00	0.62	2,944.87	133.00
<b>Cabo Verde</b>	Non- Offer First Joine rs	5.00	111.21	1.00	30.57	22.24	0.20	28.36	27.00	0.74	141.78	298.00
<b>Cabo Verde</b>	Offer First Joine rs	14.00	408.07	0.00	0.00	29.15	0.00	29.15	nan	0.74	408.07	245.00

Showing first 50 rows of 313 total. Full CSV attached.

Full tables are attached as CSV files: Country x Cohort Advanced Metrics.csv

Figures (provided):

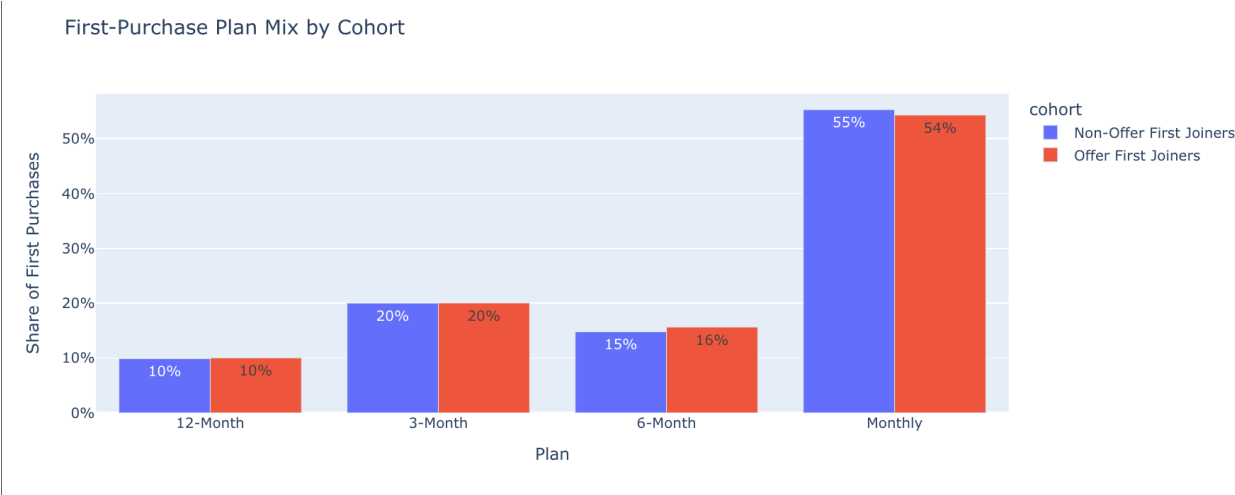


Figure 1 - First-Purchase Plan Mix by Cohort

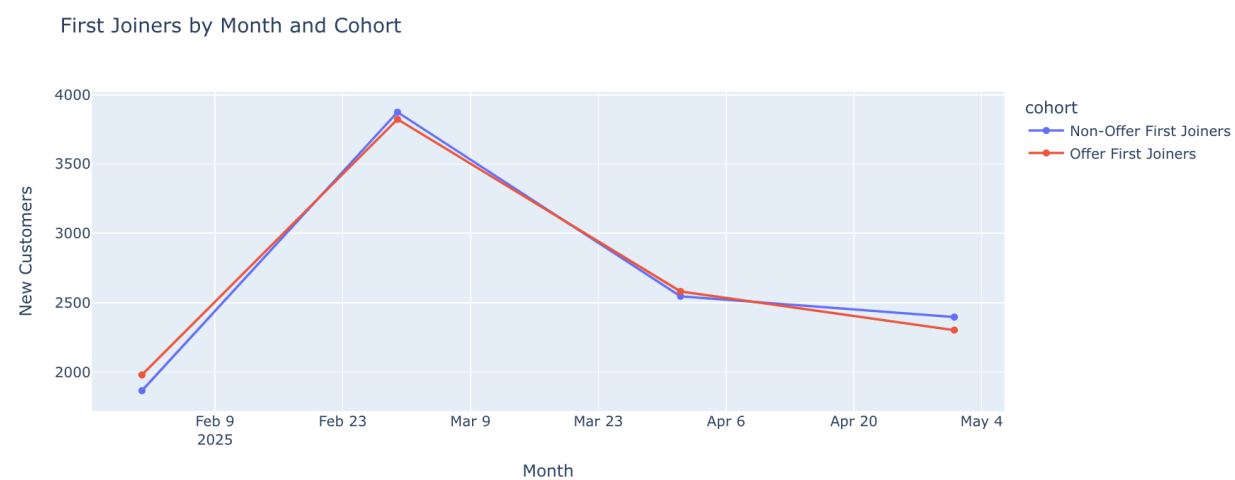


Figure 2 - First Joiners by Month and Cohort



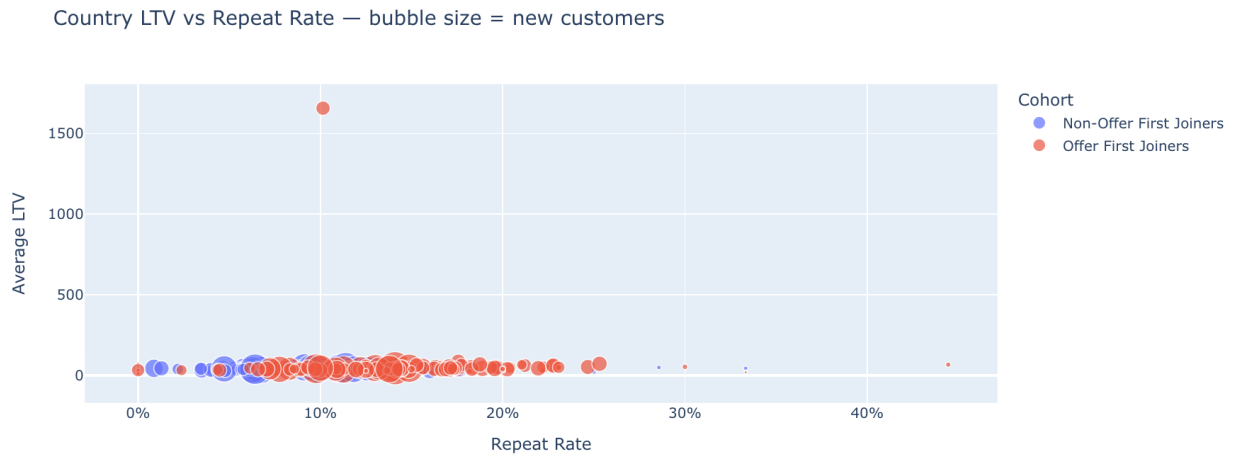


Figure 3 - Country Avg LTV vs Repeat Rate (bubble size = new customers)

## II. Subscription Mix and Revenue Contribution

The provided dataset does not contain revenue split by plan duration. We therefore use the available Top First Plan field and your Figure 1 - First-Purchase Plan Mix by Cohort to assess entry mix and its revenue implications, then connect that to repeat behavior and Avg LTV from the Country x Cohort tables.

What the chart shows

- Monthly accounts for the majority of first purchases in both cohorts: 55 percent Non-Offer and 54 percent Offer.
- 3-Month sits at 20 percent in both cohorts.
- 6-Month contributes 15 to 16 percent.
- 12-Month contributes 10 percent in each cohort.

Implications for revenue

- A heavy Monthly entry mix concentrates revenue in shorter cycles and increases dependence on repeats.
- Segments where Top First Plan = Monthly and Repeat Rate is below the median will tend to underperform on Avg LTV.
- Segments where Top First Plan = 3-Month or 6-Month and Repeat Rate is at or above the median will contribute more stable LTV per acquired customer.

What to do now

Use Table B - Advanced Country x Cohort Decision Table to filter and act:

1. Monthly to multi-month upgrade ladders
  - Filter: Top First Plan = Monthly, high New Customers, low Repeat Rate, known Median Days To Repeat.
  - Action: schedule upgrade offers to 3-Month or 6-Month in the window median – 5 to median + 3 days to catch the natural repurchase intent.
  - Metrics to move: Repeat Revenue, Avg LTV.
2. Protect LTV where longer plans dominate
  - Filter: Top First Plan in {3-Month, 6-Month, 12-Month}, Avg LTV in top quartile.
  - Action avoid broad discounts; use retention perks and add-ons.
  - Metric to protect: Avg LTV.
3. 3-Month expansion where adoption is already 20 percent
  - Filter: Top First Plan = 3-Month with high New Customers and mid to high Repeat Rate.
  - Action: expand acquisition in these geographies with creative that highlights switching costs and convenience, then design a 3-to-12 Month upgrade path by month 2.
  - Metrics to move: New Customers, Avg LTV.

### III. Marketing ROI and Efficiency (optional)

Based on the available datasets:

Near-term allocation using existing fields

The report advises applying the rules using Table B (Advanced Country × Cohort Decision Table) and Figure 3 – Country Avg LTV vs Repeat Rate:

1. Prioritize the opportunity frontier
  - Filter: top-quartile LTV-Weighted New Customers.
  - If Offer Avg LTV – Non-Offer Avg LTV > 0 → allow targeted offers.
  - If ≤ 0 → restrict offers and focus on lifecycle.
  - Metrics to move: New Customers (positive), Avg LTV (negative).
2. Fix high-acquisition but low-repeat pockets
  - Filter: top-quartile New Customers but bottom-quartile Repeat Rate.
  - Action: shift budget from acquisition to lifecycle.
  - Metric to move: Repeat Rate.
3. De-prioritize low-value clusters
  - Filter: bottom-quartile Avg LTV and bottom-quartile Repeat Rate.
  - Action: pause spend and run pricing tests.
  - Metric to move: Avg LTV.
4. Use seasonality from Figure 2
  - Observation: peak in late February → decline into April/May.
  - Action: concentrate prospecting in rising phase, shift to lifecycle during decline.

## Conclusions

Country-cohort value and repeat behavior vary materially. Prioritizing high LTV-weighted segments and fixing low repeat rate pockets should raise revenue. Timing nudges around median days to repeat can accelerate second purchases.

## Recommendations and Proposals

1. Reallocate ads toward top LTV-weighted segments: Martinique - Offer First Joiners, Kenya - Offer First Joiners, Latvia - Non-Offer First Joiners, Bahrain - Non-Offer First Joiners, Iraq Kurdistan - Offer First Joiners. Metric to lift - Repeat Revenue and Avg LTV via lifecycle nudges.
2. Launch repeat-trigger journeys where acquisition is high but repeat rate is low: Kenya - Offer First Joiners, Latvia - Non-Offer First Joiners, Sweden - Non-Offer First Joiners, Iraq Kurdistan - Offer First Joiners, Bosnia and Herzegovina - Non-Offer First Joiners. Metric to move - Repeat Rate.
3. Tighten promo guardrails where Offer Avg LTV < Non-Offer - examples: Estonia, Syria, Tuvalu, Iran, Egypt. Metric to protect - Avg LTV.
4. Expand targeted offers where Offer Avg LTV > Non-Offer - examples: Martinique, India, Panama, Botswana, Thailand. Metric to lift - New Customers without lowering Avg LTV.
5. Time lifecycle nudges around median days to repeat - examples: Kenya - Offer First Joiners around day 35, Latvia - Non-Offer First Joiners around day 44, Sweden - Non-Offer First Joiners around day 19. Metric to lift - Repeat Revenue.
6. Run churn-save and value-add bundles in lowest Avg LTV segments - examples: Colombia - Non-Offer First Joiners, Jamaica - Non-Offer First Joiners, Netherlands - Offer First Joiners, Uganda - Offer First Joiners, Syria - Offer First Joiners. Metric to lift - Avg LTV.
7. Deploy referral and loyalty in highest repeat rate segments - examples: India - Offer First Joiners, Brazil - Offer First Joiners, Israel - Non-Offer First Joiners, Poland - Non-Offer First Joiners, Philippines - Offer First Joiners. Metric to lift - New Customers.
8. Localize creative and payment UX in top acquisition countries: Bahrain, Latvia, Nigeria, Kenya, Afghanistan. Metric to lift - conversion to first purchase.
9. Improve capture of promo flag, plan duration, and price by country to enable CAC vs LTV governance. Metric to enable - CAC to LTV monitoring.

## Quality Checks and Outliers

Outliers on Avg LTV using a 3-IQR rule:

Country	Cohort	Avg LTV
Martinique	Offer First Joiners	1,657.85
Panama	Offer First Joiners	86.62

Outliers on Repeat Rate using a 3-IQR rule:

Country	Cohort	Repeat Rate
India	Offer First Joiners	0.44