Activation Funnel Redesign Lab

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PROBLEM

New users make up 89% of all visitors but convert at just 0.64% - compared to 9.73% for returning customers. That is a 15x activation gap concentrated entirely in users experiencing checkout for the first time. The current flow requires account creation before purchase, adding friction at the exact moment a new user is closest to buying. This is where revenue is left on the table.

DATA

Activation rate - new users	0.64%
Activation rate - returning users	9.73%
Performance gap	15.2x
Cart -> checkout completion	77.4%
Checkout -> purchase completion	45.5%
New users affected	~240,441

The drop-off is not distributed evenly across the funnel. Discovery and browsing stages perform normally. The bottleneck is the checkout-to-purchase step - specifically, the account creation gate that intercepts new users before they can complete a transaction.

SEGMENT

Target: new users (first-session visitors who have not previously purchased). They represent 89% of total traffic at a 0.64% activation rate - the largest addressable pool with the largest gap to the benchmark. A 50% relative improvement here produces more incremental revenue than a 50% improvement in any other segment. Segmentation queries confirmed the gap holds across device types and traffic channels. The root cause is onboarding friction, not device-specific UI failure.

PROPOSED INTERVENTION

Recommended: Variant B - Guest Checkout as the Default for New Users

Make guest checkout the primary path for first-time visitors. Account creation is offered post-purchase, when the user has received value and has a reason to save their information.

Hypothesis: Removing the account creation gate will increase new-user checkout completion by reducing abandonment at the highest-friction point in the funnel.

Variant C (first-purchase welcome nudge for returning non-purchasers) is recommended as the follow-on test after Variant B concludes.

IMPACT ESTIMATE

Baseline new-user activation rate	0.64%
Target activation rate (post-test)	0.96%
Relative lift	+50%
Users in test window (14 days)	24,088 (12,044 per group)
Baseline purchases	1,539
Projected purchases at 0.96%	2,308
Incremental purchasers	**769**

Average order value	$69.09
Projected revenue gain	**$53,130**

Statistical design: 80% power, alpha = 0.05, two-sided test. Sample size calculated via scipy.stats - see notebooks/02_sample_size.ipynb.

IMPLEMENTATION SCOPE

Engineering (checkout flow branching)	3-5 days
Design (guest UX, post-purchase account prompt)	2-3 days
Experiment instrumentation (flag + logging)	1-2 days
Test runtime	14 days
Total calendar time to result	~3.5 weeks

Medium complexity. No backend schema changes required. Primary risk surface is the experiment flag and event logging layer.

RISKS AND LIMITS

* **Email capture reduction**
  Guest checkout collects less contact information, reducing retargeting reach. Monitor email opt-in rate as a guardrail metric.
* **Fraud exposure**
  Guest checkout can increase fraudulent orders. Monitor fraud rate and chargebacks throughout the test.
* **Dataset constraints**
  This analysis uses a public sample dataset. Absolute numbers are illustrative; the 15x gap and directional finding are the transferable signal.
* **Recommendation trigger**
  If segmentation reveals the gap is device-specific, the intervention would shift toward a device-targeted checkout simplification rather than a universal guest flow.

Full methodology, SQL queries, Python notebooks, and experiment design: github.com/issa38/ActivationFunnelAnalysis
Live dashboards linked from isaiahmba.com/activation-funnel