Funnel Analysis Report

1. Executive Summary

Out of all users entering the funnel, 20.2% ultimately complete a purchase. The most significant loss occurs between the Product Page and Add to Cart stages, where 59.9% of users drop off. This accounts for the single largest point of friction in the customer journey. Drop-off patterns remain consistent across regions and referral sources, indicating a structural user experience issue rather than a traffic quality problem.

2. Funnel Overview

The conversion funnel was reconstructed from event-level session data across five stages. Retention and drop-off were calculated at each transition to identify where users disengage.

Stage Transition	Users Retained (%)	Users Dropped (%)	Interpretation
Home → Product	79.7%	20.3%	Moderate initial filtering
Product → Cart	40.1%	59.9%	Primary funnel bottleneck
Cart → Checkout	70.2%	29.8%	Intent forming
Checkout → Confirmation	90.0%	10.0%	Low friction completion

3. Drop-Off Analysis

The Product Page to Add to Cart transition shows the most severe drop-off, losing nearly six out of every ten users. This is more than double the loss observed at any other stage. In contrast, checkout completion remains strong, suggesting that once purchase intent is established, users face minimal barriers.

4. Time-of-Day Analysis

User behaviour varies by time of day. While evening sessions generate the highest traffic volume, they underperform in conversion efficiency. Afternoon and late-night sessions convert at higher rates, indicating stronger purchase intent during these periods.

Time Segment	Traffic Share	Conversion Rate
Afternoon	Medium	21.8%
Evening	High	19.9%

Late Night	Low	21.2%

5. Referral Source Analysis

Confirmed purchases are evenly distributed across referral sources, with Google contributing 27.4%, Email 24.9%, Direct traffic 24.1%, and social media 23.7%. This balanced distribution suggests that conversion performance is driven by on-site experience rather than acquisition channel.

6. Geographic Patterns

Drop-off rates remain consistent across continents, with no region exhibiting materially different behaviour. This indicates that conversion challenges are global and structural, supporting the case for universal UX improvements rather than region-specific interventions.

7. Recommendations

Priority should be given to improving the Product Page experience, particularly clarity around pricing, value proposition, and trust signals, to address the 59.9% drop-off at evaluation. Promotional timing should be aligned with higher-conversion windows such as afternoon and late-night periods. All changes should be validated through controlled A/B testing.

8. Limitations and Next Steps

This analysis is observational and does not establish causality. Future work should include controlled experiments to validate hypotheses, automated funnel monitoring, and deeper segmentation by device and user cohort to refine optimisation strategies.

Methodology: How This Analysis Was Built

This analysis was conducted using a structured, reproducible workflow designed to mirror how a junior data analyst would approach a real-world business problem. The process prioritised data integrity, interpretability of results, and alignment with practical decision-making needs.

Data Preparation

Raw event-level session data was first inspected for completeness and consistency. Records were cleaned to ensure valid timestamps, consistent session identifiers, and well-defined funnel stage labels. Invalid or incomplete records were excluded to avoid inflating or distorting funnel metrics.

Funnel Construction

User journeys were reconstructed by grouping events at the session level and mapping them to a five-stage funnel: Home, Product, Cart, Checkout, and Confirmation. Retention and drop-off rates were calculated sequentially to identify where users exited the funnel.

Segmentation & Comparative Analysis

Sessions were segmented by device type, geographic region, referral source, and time of day. This allowed for comparative analysis to determine whether observed drop-offs were driven by behavioural differences or structural issues within the funnel itself.

Analysis & Validation

Aggregations and calculations were performed using Python and SQL-style queries to ensure accuracy and repeatability. Intermediate results were cross-checked using summary tables to validate conversion rates and ensure consistency across segments.

Interpretation & Recommendations

Findings were interpreted with a business-first lens, focusing on actionable insights rather than statistical complexity. Recommendations were derived directly from the observed data patterns and prioritised feasibility and impact.