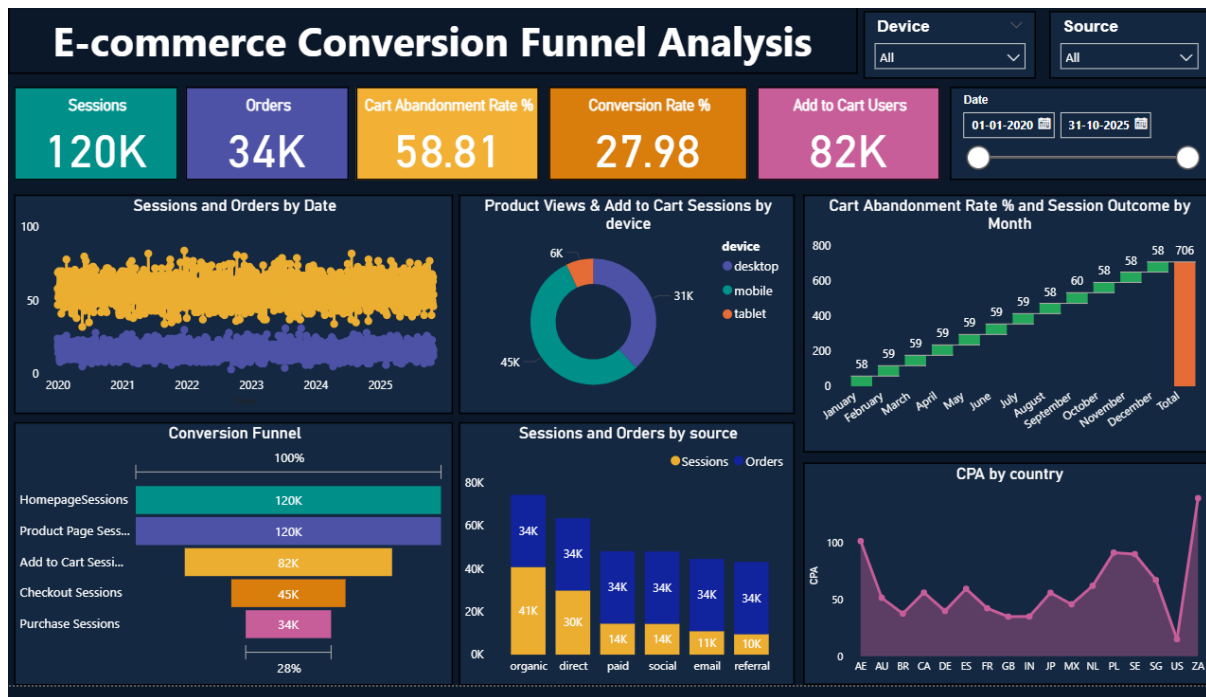# E-Commerce Conversion Funnel Analysis

1. Introduction:

This report presents an end-to-end analysis of user behaviour across the e-commerce conversion funnel, using clickstream, session, and transactional datasets.
The objective is to identify performance at each stage of the funnel—from homepage visits to final purchases—and to highlight drop-off points, traffic patterns, device behaviour, and cost performance.

The insights provided help product managers, marketers, and business stakeholders make informed decisions to increase conversions, reduce cart abandonment, and optimize channel spending.

2. Dashboard Overview:

The dashboard titled "E-commerce Conversion Funnel Analysis" provides a real-time visual summary of key metrics across the customer journey.
It contains:

- KPI Cards (Sessions, Orders, Cart Abandonment Rate %, Conversion Rate %, Add-to-Cart Users)

- Funnel analysis (Homepage → Product Page → Add to Cart → Checkout → Purchase)

- Device-based engagement

- Traffic source performance

- Monthly cart abandonment trend

- CPA (Cost Per Acquisition) by country

- Time-based analysis of Sessions and Orders

- Slicers for device, traffic source, and date range

The dashboard is designed for fast decision-making, interactive exploration, and root-cause analysis.

3. Key Metrics Summary:

3.1 Sessions – 120K

- Total number of user sessions recorded.
- Represents overall website traffic and top-of-funnel engagement.

3.2 Orders – 34K

- Shows the number of completed purchases.
- This is directly tied to revenue.

3.3 Cart Abandonment Rate – 58.81%

- Indicates the percentage of users who added products to the cart but did not complete checkout.
- High abandonment suggests issues with:
  - Checkout UX
  - Payment failures
  - High shipping costs
  - Poor mobile performance

3.4 Conversion Rate – 27.98%

- Percentage of sessions that resulted in an order.
- This is a strong indicator of funnel efficiency.

3.5 Add-to-Cart Users – 82K

Number of users who showed purchase intent by adding an item to the cart.

4. Trend Analysis:

4.1 Sessions and Orders by Date

A time-series scatter visualization shows:

- Sessions are consistently higher than orders.

- Orders maintain a stable pattern but with some seasonal fluctuations.

- No major dips indicate stable platform usage over the years.

This helps identify seasonal trends, campaign impact, and technical issues affecting traffic.

5. Device Performance Analysis:

5.1 Product Views vs Add-to-Cart Sessions by Device

A donut chart reveals:

- Mobile: **31K** sessions

- Desktop: **45K** sessions (highest engagement)

- Tablet: **6K** sessions

Insight:
Desktop performs best in both viewing and converting to cart actions. Mobile underperformance may indicate:

- UI/UX obstacles

- Slow page load

- Checkout compatibility problems

6. Monthly Cart Abandonment Trend:

The bar + line combination chart shows:

- Cart abandonment remains consistently between 58–60%.

- Slight improvements during mid-year (May–July).

- December shows the highest activity (706 events).

Interpretation:
High monthly abandonment rates require UX improvements and marketing remarketing flows.

7. Conversion Funnel Analysis:

Funnel Steps:

Funnel Stage	Count
Homepage Sessions	120K
Product Page Sessions	120K
Add to Cart Sessions	82K
Checkout Sessions	45K
Purchase Sessions	34K

Key Observations:

- Drop from Product Page → Add to Cart (120K → 82K)
  → ~32% users lose interest here (pricing/description issues).

- Drop from Add to Cart → Checkout (82K → 45K)
  → ~45% drop; strong sign of friction in cart or checkout page.

- Drop from Checkout → Purchase (45K → 34K)
  → Payment failure, login requirement, or delivery issues likely.

8. Sessions and Orders by Traffic Source:

Bar chart shows performance across channels:

Source	Sessions	Orders
Organic	41K	34K
Direct	30K	34K
Paid	14K	14K
Social	14K	11K
Email	11K	10K
Referral	10K	10K

Key Insights:

- Organic and direct dominate conversions.

- Paid marketing produces fewer orders relative to spend → optimization needed.

- Email and referral show lower volume but decent conversion efficiency.

9. CPA (Cost per Acquisition) by Country:

Line chart shows country-wise CPA values:

- Very high CPA in US & ZA

- Lowest CPA in BR, IN, MX, NL

- Mid-range in CA, DE, FR

Interpretation:
Marketing spend is yielding poor ROI in high-CPA countries and needs budget reallocation.

10. Slicers and Interactivity:

The dashboard offers dynamic filtering using:

- Device Type

- Traffic Source

- Date Range Slider

Users can instantly isolate conversion behavior for:

- specific devices

- specific marketing channels

- specific time periods

This makes the dashboard a powerful exploration tool.

11. Overall Insights & Recommendations:

11.1 Funnel Optimization

- Reduce Add-to-Cart → Checkout drop by improving cart UX.

- Simplify checkout (guest checkout, reduced steps).

11.2 Mobile Optimization

- Mobile underperforms significantly.

- Fix UI responsiveness and speed.

11.3 Marketing Performance

- Optimize paid campaigns; high CPA countries need budget adjustment.

- Focus more on organic + direct channels (best conversions).

11.4 Technical Improvements

- Improve product-page loading speed.

- Resolve any payment gateway failures.

12. Conclusion:

This e-commerce funnel dashboard provides a complete understanding of how users progress from landing on the homepage to completing a purchase. The insights reveal important opportunities to:

- Reduce drop-offs

- Improve checkout flow

- Strengthen mobile experience

- Optimize marketing spend

- Increase overall conversion rate

With continuous monitoring and iterative improvements, the business can significantly boost revenue and customer satisfaction.