

# Executive Insight Report

Generated: December 03, 2025

## Executive Summary

- ## KPI Summary
- - \*\*total\_volume\*\*: 237609
- - \*\*total\_value\*\*: {'user\_id': 11038013665, 'app\_code': 59188395, 'is\_4g': 85851, 'is\_click': 10862}

## Key Findings

- ## Performance Analysis
- ### Summary Statistics:
  - - \*\*user\_id\*\*: Mean=46454.52682768751, Median=46597.0, Std=26802.726666116265
  - - \*\*app\_code\*\*: Mean=249.09997096069594, Median=213.0, Std=135.21360889979172
  - - \*\*is\_4g\*\*: Mean=0.3613120715124427, Median=0.0, Std=0.48038175412328926
  - - \*\*is\_click\*\*: Mean=0.04571375663379754, Median=0.0, Std=0.2088640531175953
- ### Outliers Detected:
  - - \*\*user\_id\*\*: 0 outliers detected
  - - \*\*app\_code\*\*: 0 outliers detected
  - - \*\*is\_4g\*\*: 0 outliers detected
  - - \*\*is\_click\*\*: 10862 outliers detected

## Recommendations

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- 1. **Data Quality**: Ensure all missing values are addressed before further analysis
- 2. **Outlier Management**: Investigate and handle detected outliers appropriately
- 3. **Performance Optimization**: Focus on top-performing segments
- 4. **Monitoring**: Implement continuous monitoring of key metrics
- 5. **Documentation**: Maintain detailed records of all changes and decisions

## Data Quality Report

- Data shape: { 'main': { 'before': { 'shape': (237609, 7), 'missing\_values': 0, 'duplicates': 0, 'dtypes': { 'impression\_id': dtype('O'), 'impression\_time': dtype('O'), 'user\_id': dtype('int64'), 'app\_code': dtype('int64'), 'os\_version': dtype('O'), 'is\_4G': dtype('int64'), 'is\_click': dtype('int64') }, 'numeric\_columns': ['user\_id', 'app\_code', 'is\_4G', 'is\_click'], 'categorical\_columns': ['impression\_id', 'impression\_time', 'os\_version'], 'memory\_usage\_mb': 59.08315658569336}, 'after': { 'shape': (237609, 7), 'missing\_values': 0, 'duplicates': 0, 'dtypes': { 'impression\_id': dtype('O'), 'impression\_time': dtype('O'), 'user\_id': dtype('int64'), 'app\_code': dtype('int64'), 'os\_version': dtype('O'), 'is\_4g': dtype('int64'), 'is\_click': dtype('int64') }, 'numeric\_columns': ['user\_id', 'app\_code', 'is\_4g', 'is\_click'], 'categorical\_columns': ['impression\_id', 'impression\_time', 'os\_version'], 'memory\_usage\_mb': 59.08315658569336}, 'missing\_patterns': {} }, 'items': { 'before': { 'shape': (132761, 6), 'missing\_values': 0, 'duplicates': 0, 'dtypes': { 'item\_id': dtype('int64'), 'item\_price': dtype('int64'), 'category\_1': dtype('int64'), 'category\_2': dtype('int64'), 'category\_3': dtype('int64'), 'product\_type': dtype('int64') }, 'numeric\_columns': ['item\_id', 'item\_price', 'category\_1', 'category\_2', 'category\_3', 'product\_type'], 'categorical\_columns': [], 'memory\_usage\_mb': 6.077442169189453}, 'after': { 'shape': (132761, 6), 'missing\_values': 0, 'duplicates': 0, 'dtypes': { 'item\_id': dtype('int64'), 'item\_price': dtype('int64'), 'category\_1': dtype('int64'), 'category\_2': dtype('int64'), 'category\_3': dtype('int64'), 'product\_type': dtype('int64') }, 'numeric\_columns': ['item\_id', 'item\_price', 'category\_1', 'category\_2', 'category\_3', 'product\_type'], 'categorical\_columns': [], 'memory\_usage\_mb': 6.077442169189453}, 'missing\_patterns': {} } }
- All data processed and validated

## Key Metrics

Metric	Value
total_volume	237609
total_value	{ 'user_id': 11038013665, 'app_code': 59188395, 'is_4g': 85851, 'is_click': 10862 }

