

Ecommerce Sales Insights Report

Dataset: 50,000+ transactions (2018–2019)

Domain: Retail / Ecommerce

1. Overview

This analysis examines sales transactions from an ecommerce company over a two-year period. The goal is to clean raw transactional data, create a structured database, and perform exploratory and revenue-based analysis.

The report highlights **revenue drivers**, **customer behaviour**, **product performance**, and **strategic recommendations** to improve business performance.

2. Data Preparation Summary

✓ Raw → Cleaned → Structured

The data was cleaned and standardized by:

- Converting inconsistent date formats
- Converting numerical columns (price, quantity) from text to numeric types
- Removing null or corrupted rows
- Splitting the dataset into **Transactions**, **Products**, and **TransactionDetails** (fact table)
- Handling negative quantities (returns)

This ensures accurate financial analysis and removes data quality issues.

3. Key Insights Analysis

3.1 Total Revenue

✗ **Total Revenue: 40,062,74G.G7**

A very strong revenue for a mid-sized ecommerce business. Most revenue is driven by **high-volume transactions** and a few **top-performing markets**.

3.2 Revenue by Country

● Top 5 Countries by Revenue

Country	Revenue
United Kingdom	33,436,660.12
Netherlands	1,419,542.47
EIRE (Ireland)	1,076,634.07
France	834,664.84
Germany	851,335.61

Insight

- The **UK alone contributes 83%** of the total business revenue.
- The next top-performing markets are in European Union countries.
- Very low engagement from **UAE, USA, Bahrain, Brazil** etc.

Business Recommendation

- ✓ Focus marketing, logistics, and product promotions in the UK to maximize revenue.
 - ✓ Explore market expansion strategies in EU countries like Netherlands and Ireland where revenue is also strong.
 - ✓ Consider targeted campaigns in low-performing regions to test potential demand.
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3.3 Monthly Sales Trend

Sales by Month

Peak: **Nov 201G – 5.5GM**

Low: **Dec 201G – 1.75M**

Key Observations

- Sales **steadily increase** from Jan to November every year.

- **Massive spike in September–November** indicates **holiday season demand** (Christmas, Black Friday).
- December drops sharply—likely because:
 - Orders placed in November
 - Inventory shortages
 - Shipping cut-off dates

Business Recommendation

- ✓ Increase inventory for fast-moving products from **August onward**.
 - ✓ Launch promotions earlier (late August or early September).
 - ✓ Strengthen supply chain and logistics during Q4.
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3.4 Top 10 Products

Best-Selling Products by Revenue

1. **World War 2 Gliders – 568,085.85**
2. **Popcorn Holder – 620,385.50**
3. **Jumbo Bag Red Retrosport – 2G3,176.G7**
4. **Paper Chain Kit Christmas – 250,82G.54**
5. **Assorted Colour Bird Ornament – 263,861.80**
6. **Pack Of 72 Retrosport Cake Cases – 262,312.44**
7. **Cream Hanging Heart T-Light Holder – 218,G8G.82**

Product Insights

- High volume items are **low-cost, high turnover** household and decoration goods.
- Several Christmas products dominate revenue → **seasonal dependency**.
- Popcorn Holder C WW2 Gliders are top performers across months.

Business Recommendation

- ✓ Increase inventory for “staple” items like Retrosport Bags, Cake Cases, and Popcorn Holders.

- ✓ For seasonal items (Christmas kits) → increase stock only during Q3 C Q4.
 - ✓ Bundle complementary products to increase average cart value.
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3.5 Customer Analysis

Top Customers by Revenue

- **Customer 14646** → generated **1.3GM** from **74 orders**
- The top 10 customers contribute a significant share of revenue.

Insight

- The business has strong **repeat customers** and **bulk purchasers**.
- Many customers from UK/EU have consistent purchasing patterns.

Business Recommendation

- ✓ Introduce loyalty programs for repeat buyers.
 - ✓ Offer volume discounts to high-value customers.
 - ✓ Create customer segments: high, medium, and low-value.
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3.6 Average Order Value (AOV)

 **AOV = 1,726.54**

This indicates:

- Customers typically buy **multiple items per transaction**
- Possibly B2B or wholesale-style buyers

Business Recommendation

- ✓ Upsell C cross-sell to further increase order value
 - ✓ Consider offering free shipping above certain thresholds (e.g., 1500)
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3.7 Returns / Cancellations

 **Returns = 8,585 orders**

Loss Amount = -2,7G3,854.06

Very high return volume.

Possible Causes

- Low product quality
- Incorrect listings
- Damaged shipping
- Customer dissatisfaction
- Wrong product variants

Business Recommendation

- ✓ Investigate top products with negative quantity
- ✓ Improve product description clarity
- ✓ Ensure better packaging for fragile items
- ✓ Introduce quality control checks

Reducing returns even by **10%** can save ~**280K per year**.

3.8 Repeat Customer Rate

Repeat Customer Rate: 70.05%

This is **excellent** for ecommerce.

Insight

- Business has a strong loyal base.
- Indicates good product experience or B2B recurring buyers.

Business Recommendation

- ✓ Implement email marketing to retain these customers
 - ✓ Notify about new collections, seasonal offers
 - ✓ Provide VIP pricing or early access during holidays
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3.G Peak Sales by Day of Week

① Highest Revenue Days

- 1. Sunday – 8.77M**
- 2. Friday – 7.71M**
- 3. Saturday – 7.58M**

Insight

- Weekends dominate sales.
- Customers likely browse in free time.

Business Recommendation

- ✓ Run weekend home-page discounts
 - ✓ Launch new arrivals or mega offers on Friday/Sunday
 - ✓ Increase ad spend on weekends
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4. Overall Business Recommendations

1. Strengthen UK-Dominant Operations

- Primary revenue is UK → optimize shipping, warehouse, promotions.

2. Reduce Returns

- This is one of the biggest revenue leaks.
- Check product categories with highest return rates.

3. Optimize Inventory for Peak Months

- Stock up from August onward.
- Create seasonal forecasts based on Q4 spikes.

4. Improve Low-Performing Countries

- Targeted marketing campaigns in UAE, USA, Bahrain, Brazil.

5. Focus on High-Revenue Customers

- CRM-based loyalty strategy

- Personalized offers
- Bulk purchase advantages

6. Promote Top-Selling Products

- Increase visibility
 - Sponsored ads
 - Bundle similar items
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5. Conclusion

This ecommerce dataset shows a strong, stable revenue stream driven by a loyal customer base and seasonal product demand. The UK remains the core market, while product returns and December sales drop are areas of concern.

By focusing on **inventory optimization, quality checks, customer retention**, and **targeted marketing**, the company can significantly improve annual revenue and reduce losses.