Ecommerce Revenue & Customer Analysis

Data Analysis Project (Excel)

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# Executive Summary

This analysis explores revenue trends, customer behavior, and product performance for an e-commerce business (Jan 2023–Jan 2024). Key findings reveal high revenue concentration among a small group of customers and products, significant retention opportunities, and strong potential for data-driven optimization.  
  
Key Highlights:  
- ~80% of revenue comes from ~20% of customers and 2–3 SKUs.  
- High churn risk in 'At Risk' and 'About to Sleep' segments.  
- Revenue is volatile but shows a slight upward trend.

# Dataset Overview

- Records: 1,000 transactions | Customers: 300 (4 regions)  
- Attributes: 12 (Customer, Product, Revenue, Region, Age, etc.)  
- Time Period: Jan 2023 – Jan 2024  
- Source: Kaggle Ecommerce Dataset

# Key Insights

- Customers: Potential Loyalists are largest group; churn risk evident in At Risk group.  
- Products: Laptops and Smartphones drive ~85–90% of total revenue.  
- Regions: East has fewer customers but highest revenue per customer.  
- Spending: Medium spenders generate ~50% of revenue; VIP spenders key for growth.  
- Seasonality: Q4 revenue spikes; retention needed post-promotions.

# Data Quality Findings

- Gender data unreliable: 292 unique customers but 485 gender records; inconsistent entry.  
- Gender field excluded to ensure credibility and focus on reliable variables.

# Forecasting

- Gradual growth expected in Q1 2024.  
- Sales remain volatile; forecast shows widening confidence intervals, signaling uncertainty.  
- Flexible inventory planning recommended.

# Recommendations

- Retention: Loyalty programs for Potential Loyalists; reactivation campaigns for At Risk customers.  
- Product Strategy: Prioritize Laptops and Smartphones; bundle low-performing products.  
- Regional Strategy: Invest in East (high-value customers); expand in South and West.  
- Data Roadmap: Incorporate CLV, cohort analysis, and profitability metrics for deeper insights.

# Next Steps

1. Launch targeted campaigns for top and at-risk customers.  
2. Perform SKU-level profitability analysis.  
3. Build predictive CLV models for marketing strategies.  
4. Automate dashboards to monitor KPIs monthly.

# Conclusion

This project delivers a clear framework for growth: focus on loyal customers, optimize product mix, and improve retention strategies. Future phases should include cost analysis, CLV modeling, and predictive analytics to strengthen profitability and competitive edge.