



# AtliQ Hardware Data Analysis Project

Driving Business Growth Through Data-Driven Insights

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Portfolio\_link

# Problem Statement

- **Business Challenge:** You are a Data Analyst at AtliQ Hardware are assigned with a task to carry out below listed Analysis on their Sales & Supply chain Dataset
  - **Revenue Optimization:** Identify underperforming markets and products to maximize revenue, including analysis of discount strategies and their impact on profitability across global operations.
  - **Market Expansion:** Understand the potential of the Indian market as a growth opportunity, including identifying untapped sub-zones and customer segments to drive strategic expansion initiatives.
  - **Forecast Accuracy & Supply Chain Efficiency:** Improve supply chain management through better demand forecasting to reduce inventory costs and prevent stockouts across all regions.
  - **Customer & Product Insights:** Develop targeted strategies based on customer value, behavior, and product performance across categories to enhance retention and optimize product mix.
  - **Data-Driven Imperative:** Leverage comprehensive sales data to make informed strategic decisions that will drive sustainable growth and competitive advantage in an increasingly competitive hardware market.



# Project Objectives

## What We Set Out to Achieve

Identify top-performing  
markets and products



1

2



Evaluate India  
market potential

Improve forecast  
accuracy



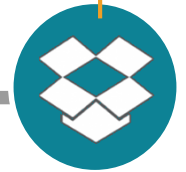
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Develop customer  
segmentation

Optimize product  
mix and inventory



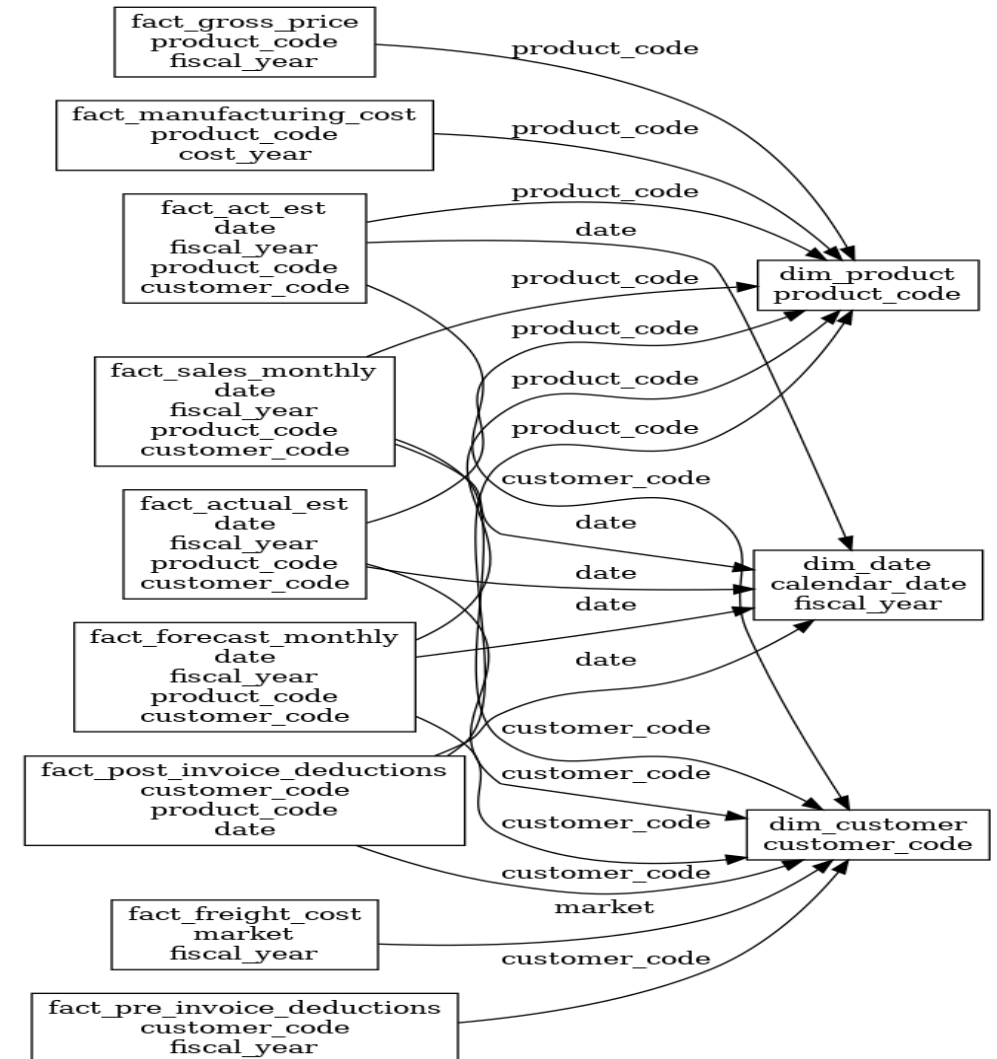
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# Data Overview

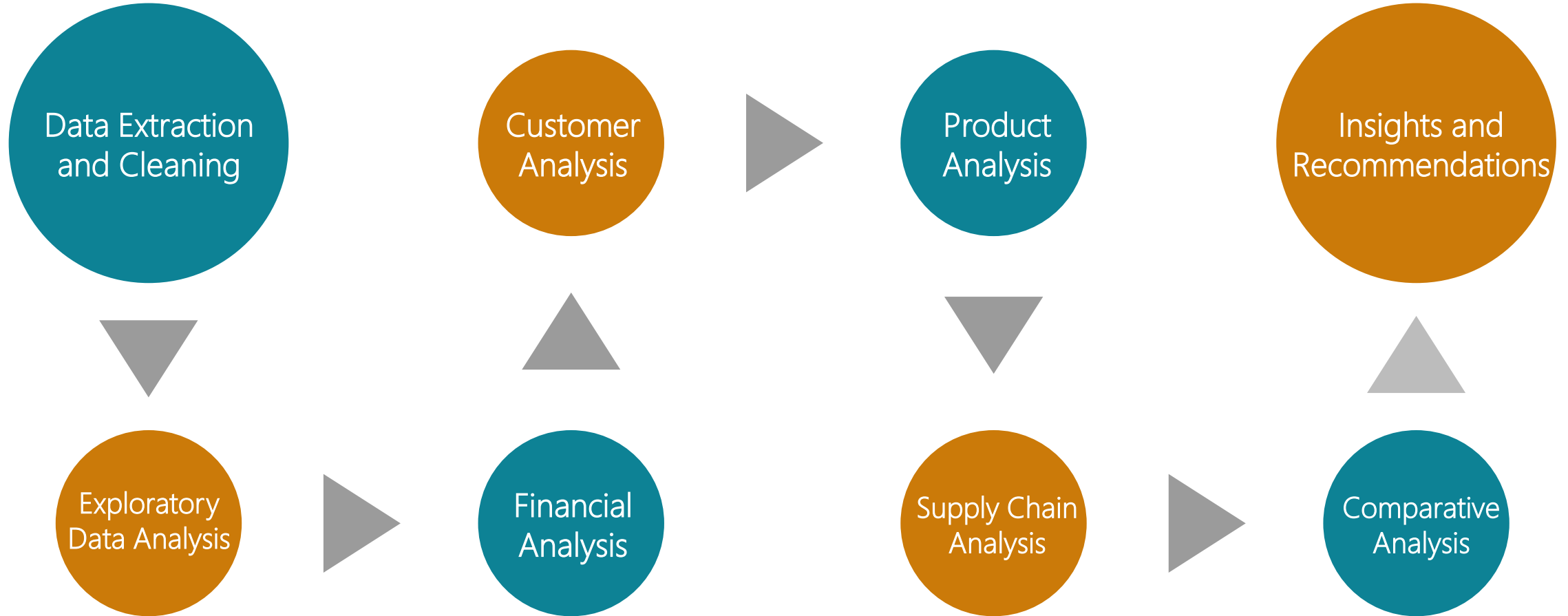
## Understanding our Data:

- Data Sources:
  - Dimension Tables (3) -
    - dim\_date,
    - dim\_customer,
    - dim\_product
  - Fact Tables (7)-
    - fact\_actual\_est (derived),
    - fact\_forecast\_monthly,
    - fact\_freight\_cost,
    - fact\_gross\_price,
    - fact\_manufacturing\_cost,
    - fact\_post\_invoice\_deductions,
    - fact\_pre\_invoice\_deductions,
    - fact\_sales\_monthly
- Time Period: 2017-2022
- Key Metrics: sold\_quantity, gross\_price, net\_sales, forecast\_accuracy
- Data Quality: No NULL values or duplicates found
- Methods: SQL queries, views, stored procedures, and segmentation models.



# Methodology

How We Approached the Analysis



Tools used: SQL, Python (Pandas, Matplotlib, Seaborn), PowerPoint

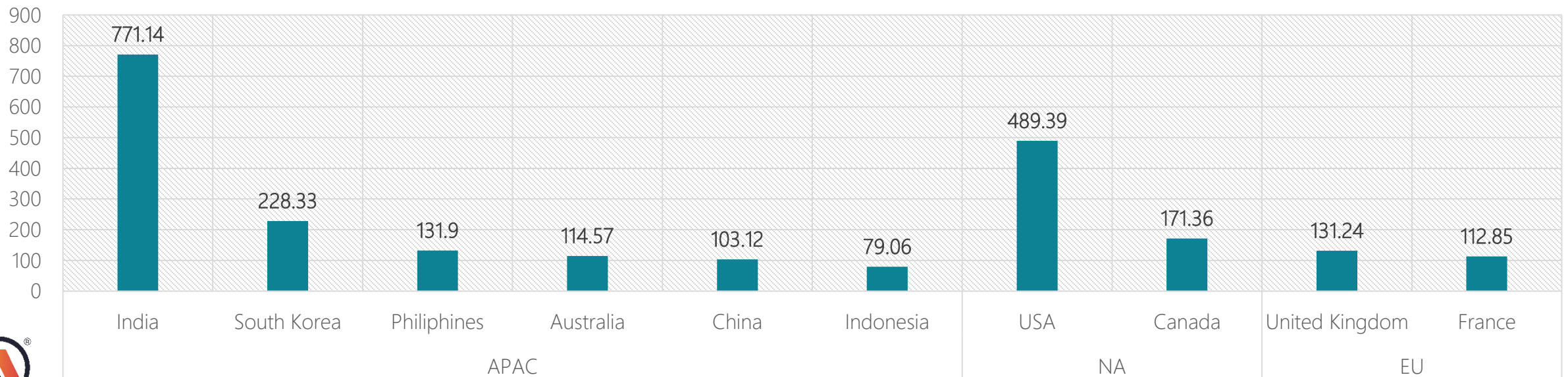


# Financial Analysis

## Revenue Optimization Insights:

- **What We Analyzed:** Revenue trends, market performance, discount strategies
- **Why It Matters:** Direct impact on business growth and profitability
- **Key Findings:**
  - APAC leads in total net sales, followed by NA and EU
  - India is a significant contributor within APAC
  - Discount strategies show varying impacts on profitability

Top 10 markets by net\_sales (in mln) from FY18 to FY22



# Customer Analysis

## Understanding Our Customers

### What We Analyzed:

- Customer segmentation by revenue contribution (High/Medium/Low Value)
- Customer lifetime value (CLV) and retention trends
- Platform and brand-level customer longevity

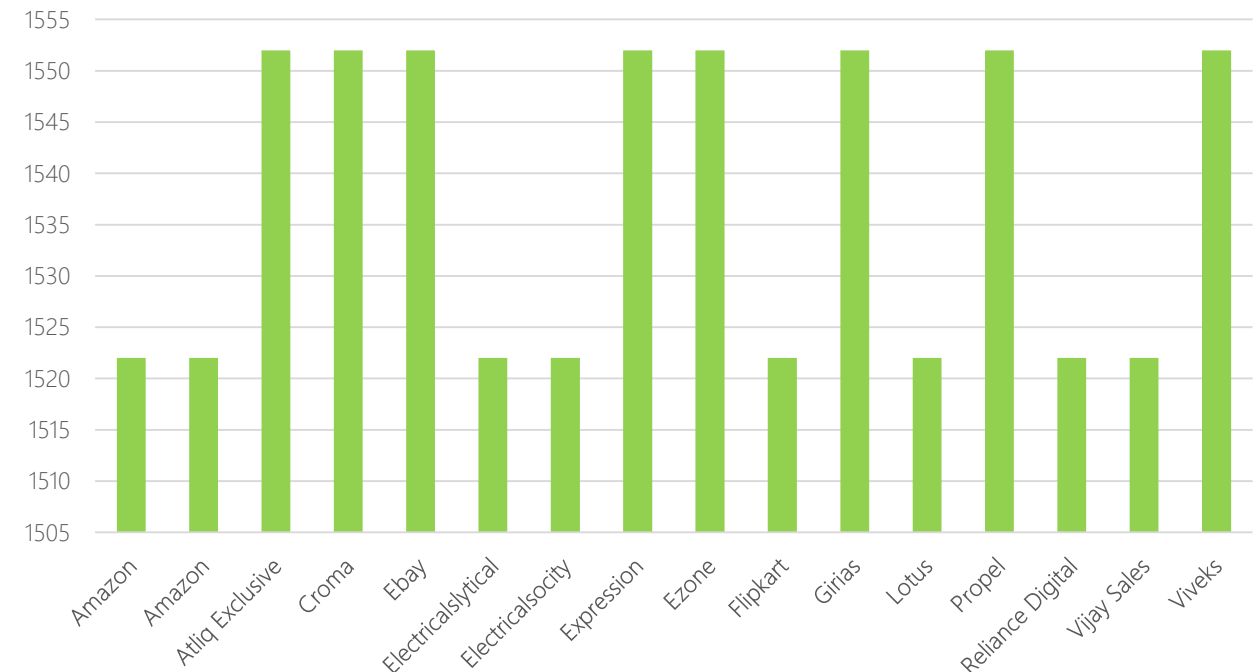
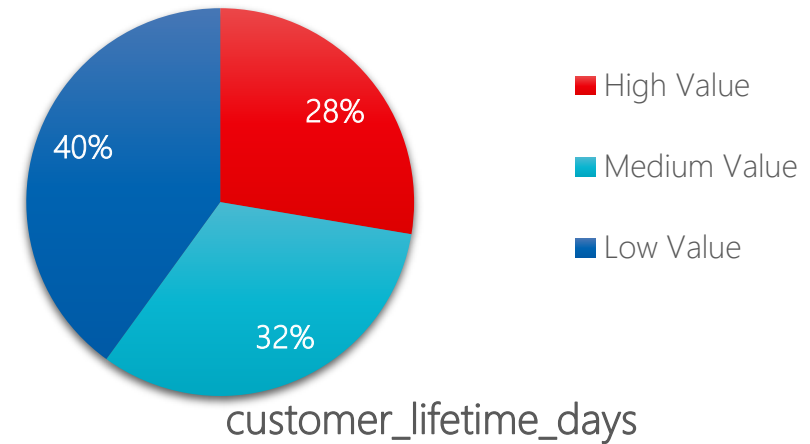
### Why It Matters

- Helps distinguish between revenue-driving vs. growth-potential customers
- Supports tiered loyalty strategies (Gold/Silver/Bronze)
- Informs customer retention and acquisition planning

### Key Findings:

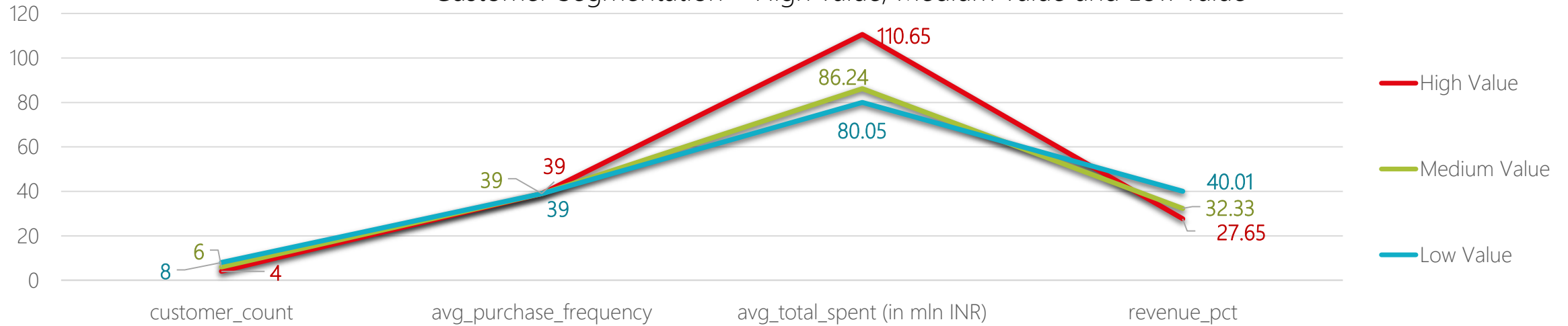
- Low-value segment (40% revenue share) forms the largest base → volume-driven growth.
- Medium-value customers (32%) represent the best opportunity for revenue expansion with targeted upselling.
- High-value customers (28%) are critical to profitability despite being fewer in number → must be retained with priority.
- Customer lifetimes are consistently long (1,520–1,552 days) across major E-commerce and retail partners (Amazon, Croma, Flipkart, Reliance Digital).
- E-commerce platforms in particular demonstrate strong CLV and retention potential.
- E-commerce platforms show strong CLV potential

Revenue % for customer segments

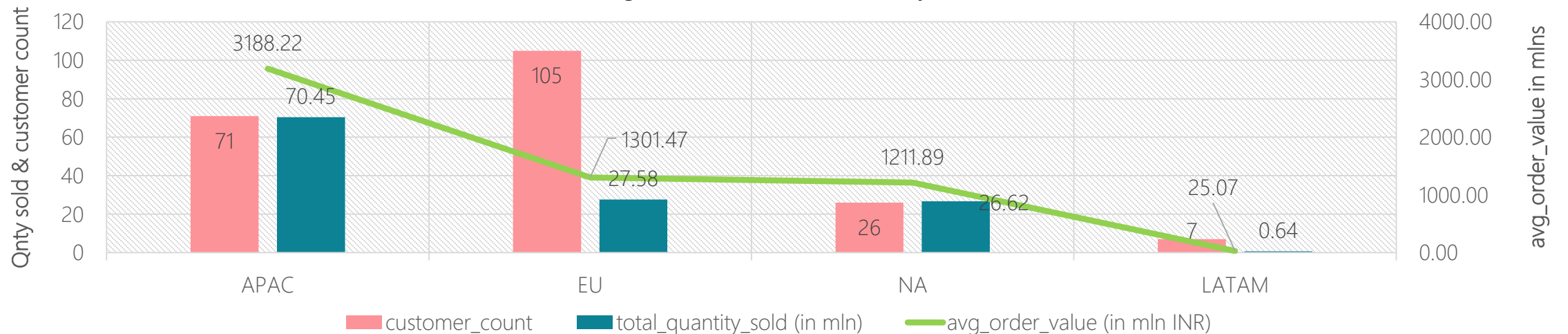


# Understanding Our Customers

## Customer Segmentation – High value, Medium value and Low value



## Region wise customer analysis



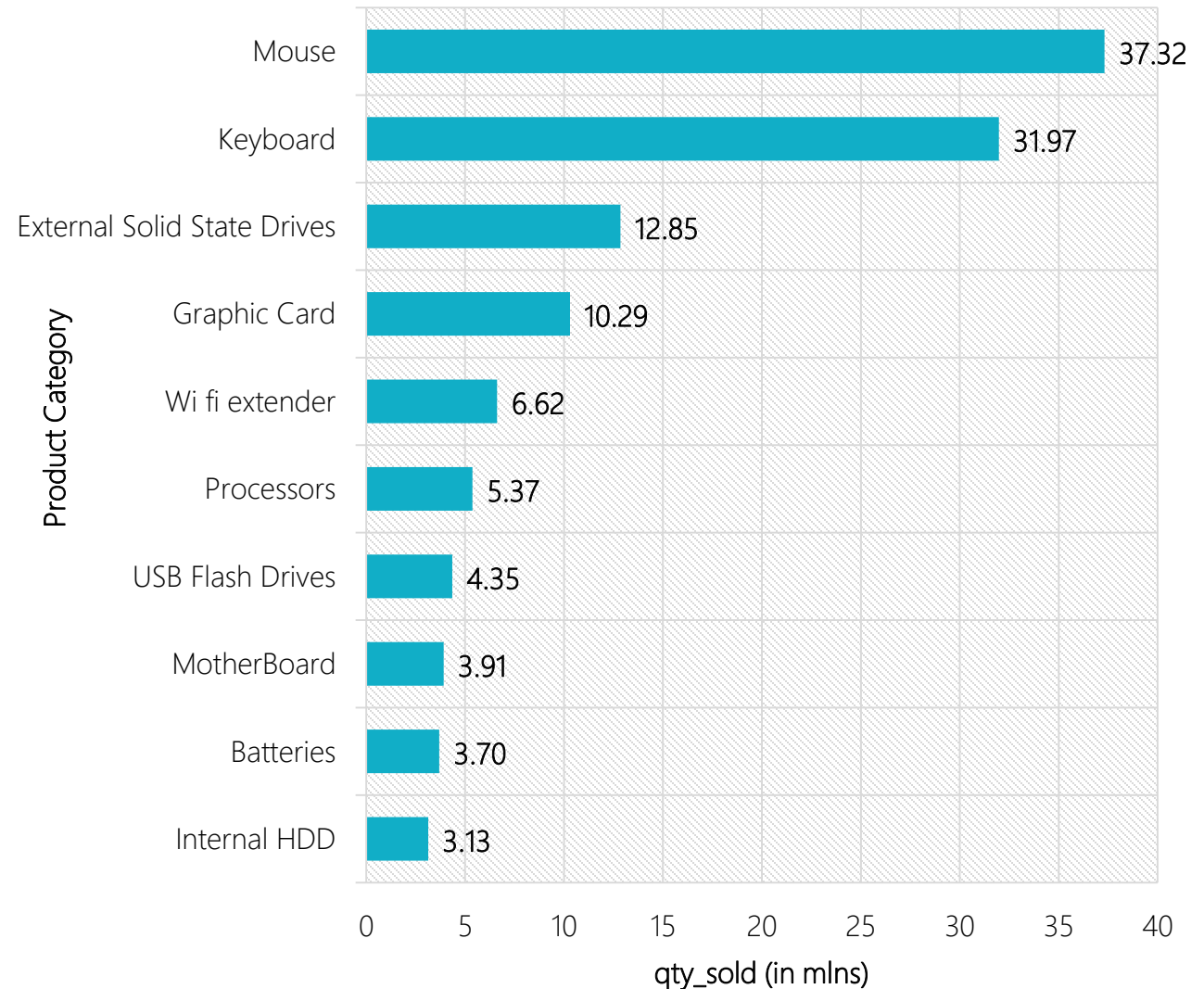


# Product Analysis

## Product Performance Insights:

- **What We Analyzed:** Top products, category performance, regional variations
- **Why It Matters:** Informs inventory and product development decisions
- **Key Findings:**
  - Computer Peripherals (Mouse & Keyboards) dominate sales – together contributing ~70M units, far ahead of other categories.
  - Storage devices (External SSDs, USB Drives, HDDs) represent a significant share, reflecting demand for data mobility & backup solutions.
  - High-performance components (Graphic Cards & Processors) show healthy traction, indicating interest in gaming and performance-focused builds.
  - Smaller accessories (Batteries, Wi-Fi extenders) contribute modestly, but highlight cross-selling opportunities.

Top 10 products according to quantity sold



# India Market Focus

## India Market Deep Dive:

### • What We Analyzed:

- Customer revenue distribution across E-Commerce vs. Brick & Mortar
- Top revenue-generating customers in the Indian market
- Platform contribution patterns

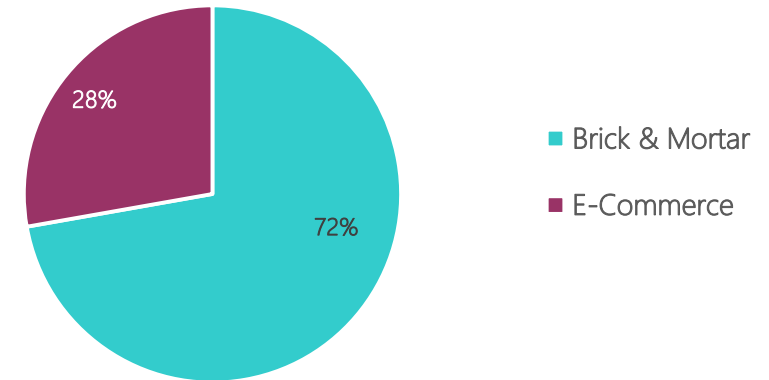
### • Why It Matters:

- Reveals which channels and partners drive sales
- Helps prioritize platform-specific strategies
- Informs customer engagement and partnership focus

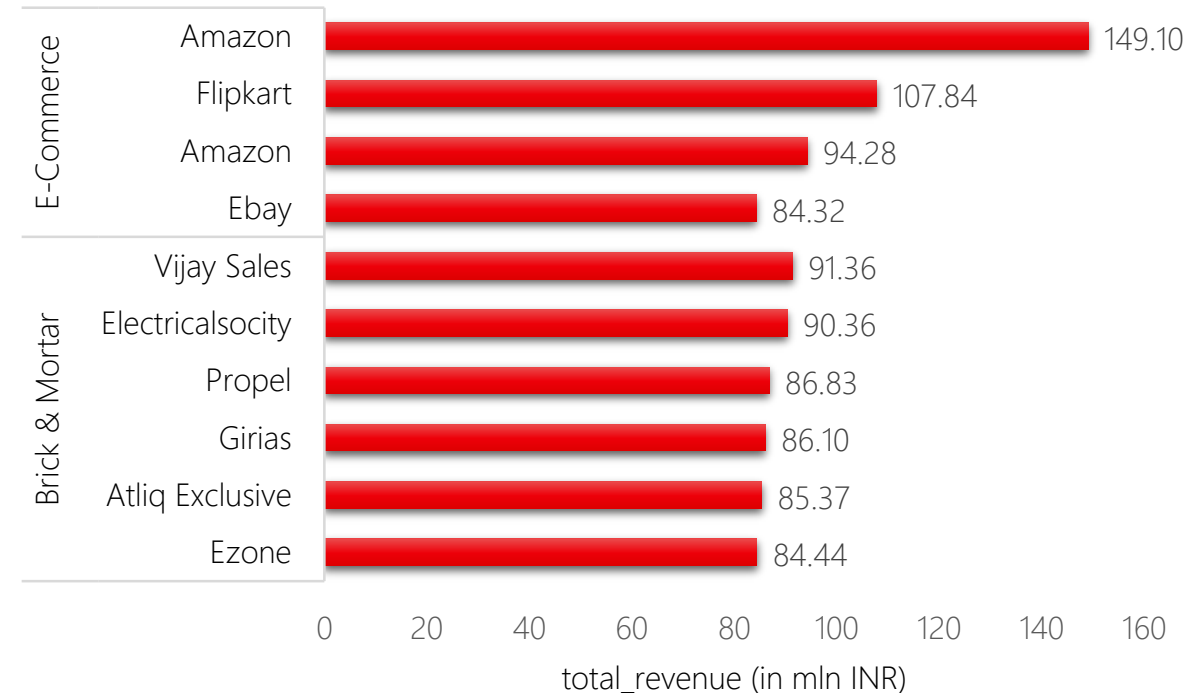
### • Key Findings:

- E-Commerce platforms dominate revenue contribution → Amazon (₹149M + ₹94M) and Flipkart (₹108M) lead.
- Brick & Mortar customers like Vijay Sales (₹91M), Electricalsociety (₹90M), and Propel (₹87M) still remain significant contributors.
- Amazon is the single largest customer in India, contributing over ₹240M combined revenue.
- Revenue is distributed across both channels, highlighting the need for a dual strategy (digital + offline) rather than channel dependence.

Platform wise Customer count for market India



top 10 customers by total revenue in million INR

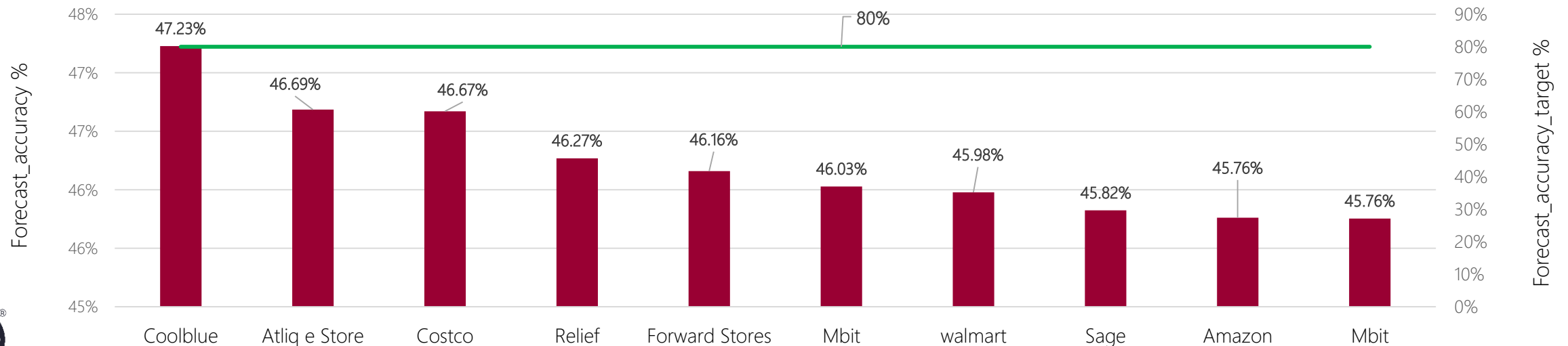


# Supply Chain Analysis

## Improving Forecast Accuracy:

- **What We Analyzed:**
  - Customer-level **forecast accuracy** vs. target benchmarks
  - Impact of inaccurate forecasts on **supply chain efficiency & inventory management**
- **Why It Matters:**
  - Poor accuracy leads to **stockouts or overstocking**, driving up costs
  - Enhancing forecasting precision improves **service levels and profitability**
  - Identifies priority customers where forecasting models need urgent improvement
- **Key Findings:**
  - All key customers are **underperforming**, with forecast accuracy between **45–47%** vs. the **80% target**.
  - Even top accounts like **Amazon and Walmart** show major accuracy gaps.
  - This indicates a **systemic forecasting challenge**, not isolated to a few customers.
  - **Significant opportunity** exists to refine forecasting models, integrate advanced methods (ML/AI), and collaborate with customers for better demand visibility.

Forecast Accuracy vs. Target (80%)

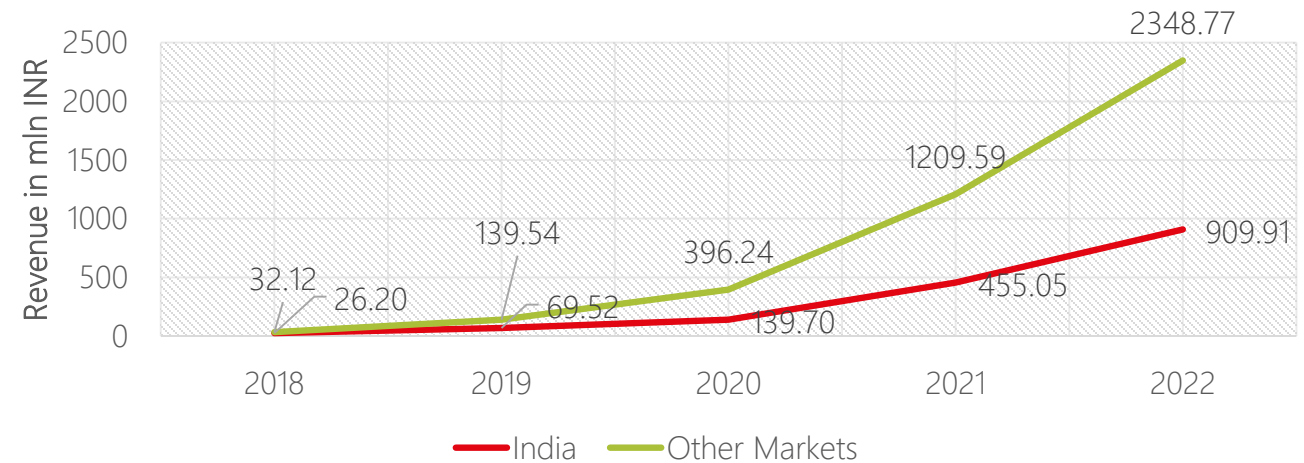


# Comparative Analysis

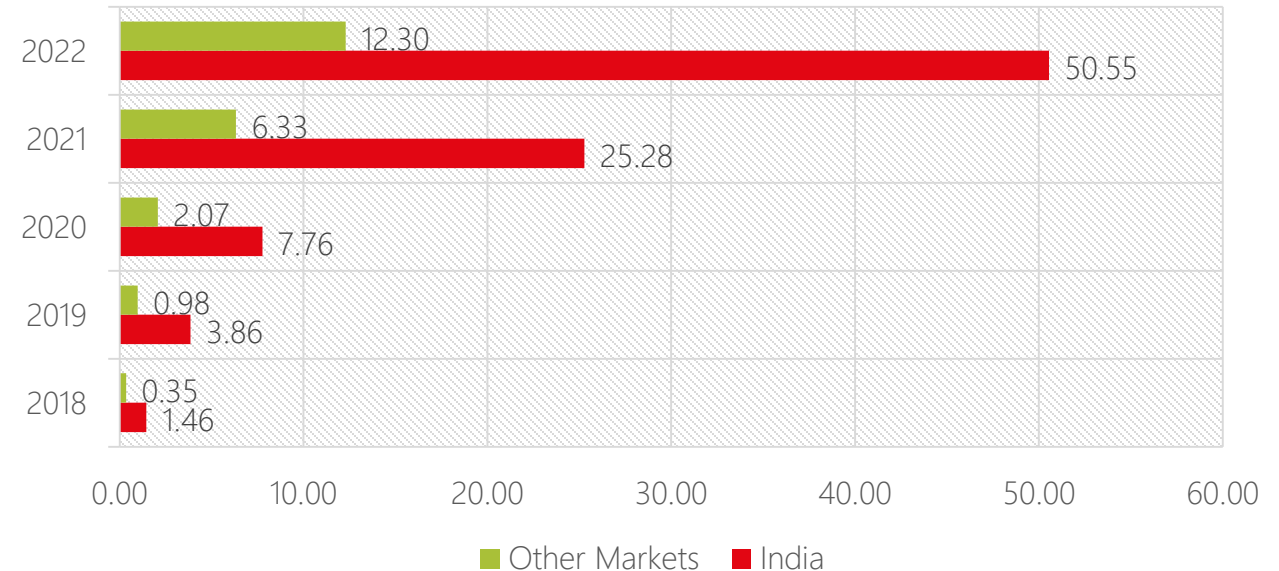
## Market Comparison:

- What We Analyzed:
  - Regional sales performance from 2018–2022
  - India vs. Other Markets revenue and customer contribution
  - Revenue per customer as a profitability metric
- Why It Matters:
  - Highlights India's outsized contribution despite a smaller customer base
  - Helps identify markets with growth potential vs. efficiency strengths
  - Supports resource allocation and market prioritization
- Key Findings:
  - India's revenue grew ~35x (₹26M → ₹910M) between 2018–2022, far outpacing other markets.
  - Despite only 18 customers, India consistently delivers 4–6x higher revenue per customer compared to other markets.
  - Other markets have a larger customer base (191 in 2022) but much lower per-customer revenue.
  - India is a high-value, high-efficiency market, while other regions offer volume-driven growth potential.

Revenue trend 2018-2022: India vs Other Markets



Revenue per customer trend 2018-2022: India vs Other Markets



# • Key Insights Summary •



## INDIA GROWTH

India delivers 4–6x higher revenue per customer compared to other markets, making it a premium efficiency-driven market.



## CUSTOMER CONCENTRATION

Roughly 20% of customers drive 70% of revenue, highlighting both profitability and dependency risks.



## SEGMENTATION OPPORTUNITY

Medium-value customers contribute 32% of revenue today, but with engagement they can become tomorrow's high-value base.



## FORECASTING GAP

Forecast accuracy remains stuck at 45% vs. 80% target, causing inefficiencies and higher inventory costs.



## E-COMMERCE CLV

Platforms like Amazon and Flipkart sustain 1500+ day customer lifetimes, proving strong potential for retention and loyalty strategies.

# Strategic Recommendations

## Engage Medium-Value Customers

→ Loyalty programs + targeted campaigns to expand 32% revenue share.

## Prioritize India Market

→ Allocate more resources to India; leverage its 4–6x higher revenue per customer.

## Diversify Products & Customers

→ Cross-sell bundles; reduce dependency on top 20% customers/products.

## Improve Forecasting Models

→ Deploy ML/AI-driven planning to raise accuracy from 45% → 70%+.

## Strengthen E-commerce Partnerships

→ Deepen ties with Amazon/Flipkart; capitalize on 1500+ days CLV.

## Scale Best Practices Globally

→ Apply India's data-driven strategies across APAC & global markets for sustainable growth.



# Implementation Plan

## Next Steps

Improve forecast models (pilot ML/AI forecasting, collaborate with top 5 customers)



Q1

Q2



Launch loyalty programs & targeted promotions for medium-value customers

Diversify portfolio with cross-sell bundles, strengthen E-commerce partnerships



Q3

Q4



Scale India-focused growth initiatives and expand best practices to other APAC markets

Forecast accuracy ↑ from ~45% → 70%+  
Medium-value customer revenue share ↑ by 10%  
Inventory costs ↓ by 15%  
CLV for E-commerce partners ↑ YoY



### Long-Term Vision:

Position India as a **model growth market**. Replicate success strategies across APAC & global markets

### Resources Needed:

Data science team for ML models. Marketing budget for loyalty programs & campaigns. Strategic account managers for E-commerce partnerships



# Conclusion

## PROJECT IMPACT

### Insights:

- SQL-driven analysis delivered insights across Finance, Customers, Products, Supply Chain, and Markets.
- Raw data → actionable strategies for growth and efficiency.

### Growth:

- Solved reporting gaps with segmentation and visibility.
- Identified revenue risks and forecasting inefficiencies.
- Compared India vs. global performance for untapped opportunities.

### Customers:

- Prioritize India as a high-efficiency market → APAC growth engine.
- Improved forecast accuracy → lower costs & fewer stockouts.
- Targeted engagement → higher CLV, loyalty, and profitability.





**Thank You**

