**Northwind Traders: A MECE-Based Sales Analysis and Strategic Action Plan**

***A Structured and Comprehensive Breakdown of Sales Insights and Strategic Recommendations***

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**Executive Summary & Performance Overview**

**1.0 Executive Summary**

This report provides a strategic analysis of **Northwind Traders’** sales performance, customer base, and operational health, derived from the comprehensive Exploratory Data Analysis (EDA). The analysis identified both significant growth opportunities and critical dependencies that pose a risk to future stability.

**Key Findings at a Glance:**

* **High Customer Concentration:** 48.73% of total revenue is generated by the top 10 customers, creating a single point of failure risk.
* **Critical Inventory Risk:** 5 high-demand SKUs are currently at zero stock, resulting in immediate, preventable lost sales.
* **Uneven Sales Performance:** The top three sales employees account for 52.6% of total revenue, indicating an urgent need for performance standardization and knowledge transfer.

**Recommended Action Plan:**  
Shift focus from reactive order fulfillment to proactive risk mitigation and operational standardization through:

* Targeted retention campaigns for top customers
* Dynamic inventory control implementation
* Structured sales training and knowledge transfer program

**1.1 Overall Financial Performance**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| |  | | --- | | **Key Performance Indicator (KPI)** |  |  | | --- | |  | | Value | | **Calculated From** | | --- |  |  | | --- | |  | |
| |  | | --- | | Total Revenue |  |  | | --- | |  | | |  | | --- | | ₹1,265,793.05 |  |  | | --- | |  | | |  | | --- | | Sum of product-level sales (EDA-4 / EDA-9) |  |  | | --- | |  | |
| |  | | --- | | Total Orders |  |  | | --- | |  | | |  | | --- | | 830 |  |  | | --- | |  | | |  | | --- | | Grand Total (EDA-5(2)) |  |  | | --- | |  | |
| |  | | --- | | Total Unique Customers |  |  | | --- | |  | | 89 | |  | | --- | | Sum of Total\_Customers by city (EDA-5(2)) |  |  | | --- | |  | |
| |  | | --- | | Average Order Value (AOV) |  |  | | --- | |  | | |  | | --- | | ₹1,525.05 |  |  | | --- | |  | | |  | | --- | | (Total Revenue / Total Orders) |  |  | | --- | |  | |
| |  | | --- | | Average Orders per Customer |  |  | | --- | |  | | 9.33 | (Total Orders / Total Customers) |

**Insight:**  
The analyzed period shows robust sales and a stable foundation for scaling the business.

**1.2 Temporal Order Trend**

Order frequency (EDA-5(2)) shows stable daily order volume across weekdays (Mon–Fri).  
Monthly order data reveals a clear upward trend starting in late 1995, accelerating into 1996 — indicating **sustained growth momentum**.

**Customer Strategy and Revenue Concentration**

**2.0 Customer Segmentation and Risk**

Revenue analysis reveals a **Pareto-like distribution** — a small number of customers generate nearly half the total revenue.

**2.1 High-Value Customer Analysis**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Rank** | **Customer ID** | **Company Name** | **Total Revenue (₹)** | **% of Total Revenue** | **Orders** | **Segment** |
| 1 | QUICK | QUICK-Stop | 117,483.39 | 9.28% | 28 | High Value Frequent |
| 2 | SAVEA | Save-a-lot Markets | 115,673.39 | 9.14% | 31 | High Value Frequent |
| 3 | ERNSH | Ernst Handel | 113,236.68 | 8.95% | 30 | High Value Frequent |
| |  | | --- | | **Top 10 Total** |  |  | | --- | |  | |  |  | **616,789.20** | **48.73%** |  |  |

**Insight:**  
The top 3 customers are **High Value Frequent buyers**, showing strong loyalty but high revenue dependency.  
Regions like **Boise (31 orders)** and **Graz (30 orders)** show single, high-volume client behavior (EDA-2).

**2.2 Recommendations: Targeted Retention**

**Stakeholder:** Sales & Marketing

* **Tiered Service Model:** Create a *Platinum Client* tier for top 12% of customers with dedicated account managers, priority shipping, and exclusive offers.
* **Churn Prevention:** Track order frequency/AOV of top 20 clients; drops should trigger immediate sales intervention.
* **Cross-Selling:** Promote high-margin add-ons for top customers with frequent large-volume orders.

**Product Portfolio and Inventory Risk Management**

**3.0 Revenue Drivers and Pareto Principle**

Northwind follows an **80/20 rule**, where few categories drive most revenue.

**3.1 Product and Category Contribution**

|  |  |  |  |
| --- | --- | --- | --- |
| **Category Name** | **Total Sales (₹)** | **Cumulative %** | **Top Product (₹)** |
| Beverages | 267,868.17 | 21.16% | Côte de Blaye (₹141,396.73) |
| Dairy Products | 234,507.28 | 39.73% | Raclette Courdavault (₹71,155.70) |
| Confections | 167,357.23 | 53.05% | Tarte au sucre (₹47,234.97) |
| Meat/Poultry | 163,022.36 | 65.91% | Thüringer Rostbratwurst (₹80,368.67) |
| Seafood | 131,261.75 | 76.29% | Carnarvon Tigers (₹29,171.88) |

**Insight:**  
Top 3 categories = **53.05% of revenue**. Côte de Blaye alone drives **₹141K**, the most critical SKU.

**3.2 Critical Inventory Risk**

|  |  |  |  |
| --- | --- | --- | --- |
| **Product Name** | **Total Quantity Sold** | **Units In Stock** | **Status** |
| Thüringer Rostbratwurst | 746 | 0 | Critical Stockout |
| Alice Mutton | 978 | 0 | Critical Stockout |
| Perth Pasties | 500+ | 0 | Critical Stockout |
| Gorgonzola Telino | 1,397 | 0 | Critical Stockout |
| Chef Anton’s Gumbo Mix | 400+ | 0 | Critical Stockout |

**Insight:**  
Top revenue SKU **Thüringer Rostbratwurst** is completely out of stock — a serious operational failure.

**Recommendations – Dynamic Inventory Control**  
**Stakeholder:** Inventory & Purchasing

* Execute emergency restocking for all 5 stockout SKUs.
* Set **Reorder Points (ROP)** based on 95th percentile lead time.
* Reassess 18 additional low-stock SKUs to avoid lost revenue.

**Operational Efficiency and Employee Performance**

**4.0 Sales Team Productivity**

|  |  |  |  |
| --- | --- | --- | --- |
| **Employee Name** | **Total Revenue (₹)** | **% of Total Revenue** | **Total Orders** |
| Margaret Peacock | 250,187.45 | 19.77% | 156 |
| Janet Leverling | 213,051.30 | 16.83% | 127 |
| Nancy Davolio | 202,143.71 | 15.97% | 123 |
| **Top 3 Total** | **665,382.46** | **52.57%** | **406** |

**Insight:**  
3 employees generate **52.6%** of total revenue. Losing any could destabilize business continuity.

**Additional Findings:**  
Most employees are based in **London** and **Seattle**, with hiring concentrated between **1992–1994**, implying a need for **new training cycles** (EDA-6, EDA-7).

**4.2 Recommendations: Knowledge Transfer & Training**

**Stakeholder:** HR & Management

* Develop a **Northwind Sales Playbook** based on top-performer strategies.
* Conduct mandatory training for low-performing sales regions.
* Offer retention bonuses or profit-sharing for top 3 employees.

**4.3 Supplier & Procurement Risk**

|  |  |  |  |
| --- | --- | --- | --- |
| **Category Name** | **Suppliers** | **Total Products** | **Single-Supplier Risk** |
| Beverages | 8 | 12 | Low |
| Condiments | 8 | 12 | Low |
| Dairy Products | 4 | 10 | Moderate |

**Insight:**  
Average product price in **France (₹76.75)** is significantly higher than **USA (₹20.87)** and **Germany (₹37.60)** — potential procurement inefficiency.

**Recommendations – Procurement Optimization**  
**Stakeholder:** Purchasing

* Conduct pricing audit for France region suppliers.
* Renegotiate bulk pricing with top vendors (Plutzer, Pavlova).
* Diversify Dairy suppliers to mitigate dependency risk.

**Fulfillment & Risk Mitigation**

**5.0 Fulfillment and Logistics**

Metrics to track continuously:

* Average Shipping Duration
* On-Time Delivery %
* Freight Cost per Order

**Insight:**  
Power BI visualizations should highlight high-cost or slow routes using box plots to identify inefficiencies.

**5.1 Recommendations: Operational Review**

**Stakeholder:** Operations

* Reassign *high-value customer orders* to faster shippers.
* Target **5% reduction** in freight cost via better bundling and negotiation.

**5.2 Anomalies and Data Integrity**

**Identified Issues:**  
Orders with negative pricing or abnormally high discounts were detected in the EDA.

**Recommendations – Data Governance**  
**Stakeholder:** Finance & Audit

* Flag all discounts >20% for manager approval.
* Implement front-end validation for erroneous order entries.

**6.0 Conclusion and Next Steps**

Northwind Traders achieved over **₹1.27 Million** in sales, but heavy dependency on a few customers and employees poses structural risks.

**Top 3 Immediate Priorities:**

1. Customer Retention
2. Inventory Risk Mitigation
3. Sales Team Standardization

**Future Work:**  
Integrate predictive analytics for **sales forecasting** and **automated inventory alerts** using AI-driven Power BI dashboards.