

TECHNICAL PROPOSAL

Inventory & Sales Data Analytics for [Client Name]

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Date: September 10, 2025

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1. Executive Summary

As a freelance data analyst, I propose a comprehensive analytics solution to optimize [Client Name]'s inventory and sales operations. The solution integrates warehouse, e-commerce, and sales data into a Power BI dashboard, delivering actionable insights, enhancing forecasting, and enabling data-driven strategic decisions.

2. Client Case Background

Organization: A mid-size retail company with multiple warehouses and an online sales platform.

Challenges:

- Inaccurate inventory counts causing stock-outs and overstock situations.
- Fragmented sales data from multiple channels (website, POS, marketplaces).
- Difficulty in identifying best-selling products and slow-moving stock.
- Inefficient order fulfillment due to lack of visibility into warehouse stock.

Real Solutions:

- Use Python scripts to automate data extraction from warehouse management systems (WMS) and e-commerce APIs.
- Store and query integrated data using SQL databases for reliable, centralized storage.
- Build Power BI dashboards with KPIs such as Inventory Turnover, Stock Aging, Sales per Channel, and Customer Segmentation.
- Use predictive analytics to forecast demand and optimize reordering processes.
- Enable drill-through analysis and real-time monitoring of stock and sales trends.

3. Proposed Solution – Technical & Business Scope

Data Integration & Preparation:

- Use Python for ETL pipelines to extract, clean, and transform data from WMS, SQL databases, and e-commerce platforms.
- Implement SQL database schemas to store cleansed and integrated data efficiently.

Advanced BI Dashboard:

- Develop Power BI dashboards with KPIs: Total Sales, Stock Aging, Inventory Turnover, Dead Stock, Top Products, Customer Segmentation, and Sales Trends.
- Include predictive analytics features using Python (e.g., demand forecasting).
- Enable drill-down and drill-through for granular analysis.

Analytics & Business Enhancements:

- ABC product analysis, warehouse performance comparison.
- Forecast demand using historical and seasonal trends.
- Customer lifetime value (CLV) and repeat purchase analysis.
- Cross-selling and upselling opportunities identification.
- Automated inventory alerts, optimized warehouse allocations.
- Promotional strategies for slow-moving products.
- Monthly executive reports for management to track KPIs and ROI.

4. Benefits & Expected Impact

- Reduce stock-outs and overstock situations
- Improve revenue through targeted product and customer strategies
- Increase operational efficiency by automating data extraction and reporting
- Enable data-driven decision-making with real-time dashboards
- Forecast demand accurately and optimize inventory management

5. Project Timeline

Phase	Deliverables	Duration
1. Data Collection	Python scripts to extract and clean data	3 days
2. Data Modeling & SQL	Create relational database, ETL pipelines, DAX calculations	2 days
3. Dashboard Development	Interactive Power BI dashboard with KPIs and filters	3 days
4. Testing & QA	Validation, scenario testing, and client review	1 day
5. Delivery	Final dashboard, PDF report, walkthrough session	1 day
TOTAL	Complete solution delivered	10 days

6. Financial Offer

For the complete scope of work outlined in this proposal, the financial terms are as follows:

- Fixed Project Fee: \$500 USD
- Payment Terms: 50% upfront, 50% upon delivery of final dashboard and documentation.
- Optional Maintenance & Support: \$50 USD per month for ongoing updates, troubleshooting, and minor enhancements.

7. Next Steps

- Confirm data access and KPIs
- Agree on financial terms and project schedule
- Begin data collection and project kick-off