

# Finacial Analysis & Management Tool



# The Challenges

- DMart faces over 5,000 daily transactions across many counters in one branch.
- Annual inventory costs are rising by 12%.
- Data is scattered, making it hard to track profit margins and top-selling products.
- 15% product wastage rate significantly impacts profitability.



# Our Solution :

## Financial Analysis and Management Tool

### A ROBUST SYSTEM TO:

- Track sales, inventory, and profitability.
- Identify sales and wastage patterns.
- Provide actionable insights for decision-making.
- Optimize financial management and reduce wastage.





## Data Collection

Gather sales, inventory, and transaction data from retail outlets, POS systems, and inventory management systems.

## Data storage

Store collected sales and inventory data in a local database (e.g., PostgreSQL) or cloud storage (e.g., AWS S3, sagemaker).

## Preprocessing

Clean, normalize, and enhance the dataset to ensure accurate analysis and eliminate inconsistencies.

## Feature Extraction

Extract key metrics like sales trends, stock levels, product profitability, and wastage patterns using Python (pandas, NumPy).

## Alerts & Reporting

Provide real-time alerts for low stock, overstock, or wastage risks, and generate detailed reports for stakeholders.

## Waste Reduction insights

Generate actionable insights to minimize product wastage by identifying slow-moving or expiring inventory.

## Demand Forecasting

Use ML models (e.g., Prophet, LSTM) to predict future sales and suggest optimal inventory restocking levels.

## Financial Analysis

Perform analysis to identify top-selling products, calculate profitability margins, and evaluate inventory costs using ML models.

## How different is it from any of the other existing ideas?

- Combines demand forecasting, wastage reduction, and profitability analysis into one system.
- Provides real-time actionable insights with AI-driven predictions tailored for high transaction retail environments.

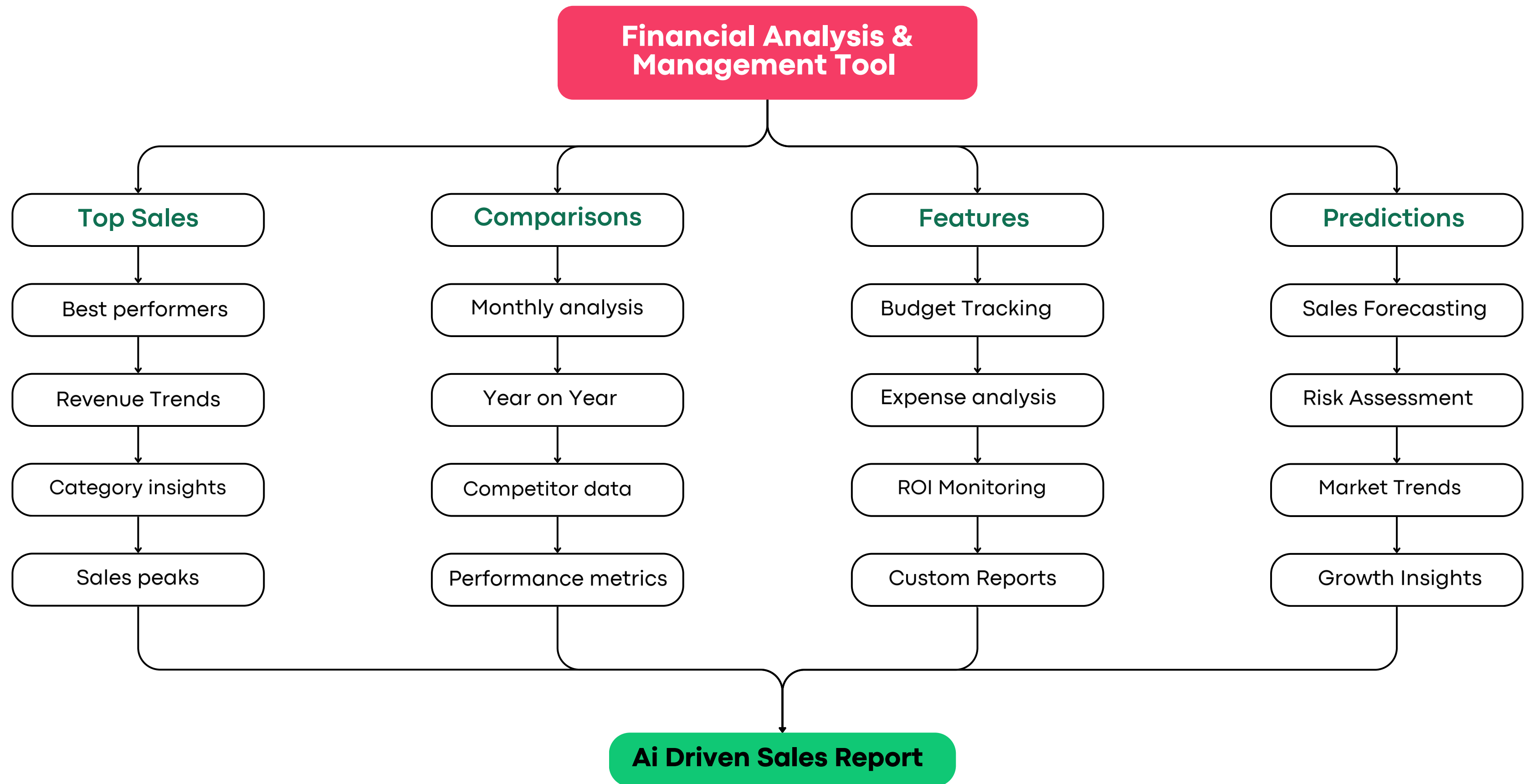
## How will it solve the problem?

- Reduces wastage by identifying slow-moving inventory and optimizing restocking.
- Increases profitability by tracking sales patterns, top products, and minimizing overstock costs.

## USP of the proposed solution:

- Integrated platform offering AI-based demand forecasting, wastage reduction, and financial optimization.
- Real-time alerts and interactive dashboards simplify decision-making for retail managers.





## Technologies to be used in the solution

### Frontend



### Backend



### Database



### Cloud Service



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#### BENEFITS:

Helps retail outlets like DMart improve financial management using AI.  
Provides real-time insights to reduce risks and enhance decision-making.

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#### PROBLEMS ADDRESSED:

Fixes issues with scattered sales data and lack of clear inventory tracking.  
Offers actionable insights to improve sales, inventory, and profitability management.

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## TROJAN HORSE

- **Migrating to SQL Button:** Highlighting the current transition of data operations to SQL-based systems for enhanced efficiency and scalability.
- **Top Sales Tab:** Provides insights into the highest-performing products, stores, or departments for financial analysis.
- **Comparison Tab:** Enables users to compare sales data across time periods, regions, or other categories.
- **Features Tab:** Offers an overview of available functionalities, aiding user navigation and understanding of the tool's capabilities.
- **Submit Button:** Executes user commands or confirms inputs for the selected functionalities.
- **Financial Analysis & Management Tool:** The central dashboard header, emphasizing the tool's purpose in managing and analyzing financial data.





## Features Offered by the Solution:

- Monitor daily sales performance across all counters and branches.
- Suggest optimal restocking levels to prevent overstocking or stockouts.
- Identify slow-moving and expiring products to minimize wastage.
- Predict future sales trends using AI-driven time-series models.
- Store all sales, inventory, and profitability data in one unified platform for easy access.
- Notifications for low-stock items, overstock risks, and wastage warnings.
- Visualize key metrics like sales trends, inventory status, and profitability on customizable dashboards.
- Provide suggestions to improve operations, such as restocking plans and reducing wastage.



## Estimated Implementation Cost

### Development Costs:

The main cost is for building and training AI models using platforms like TensorFlow, PyTorch, or AWS SageMaker.

### Deployment and Cloud Usage:

Deploying the solution on cloud platforms like AWS, Google Cloud, or Azure requires infrastructure such as databases, APIs, and analytics services.

Cloud service costs for deployment and ongoing operations may range between \$5,000 and \$20,000 annually, depending on usage.

### Maintenance and Future Enhancements:

Includes updating models, integrating new features like multi-branch scalability or real-time analytics, and ensuring the system is secure and efficient.

Maintenance costs are estimated to range between \$3,000 and \$15,000 annually, depending on additional feature upgrades and scale.

# Thank You

