

A worker in a dark jacket and orange hard hat is operating a large industrial machine in a wood factory. The machine is processing a large log, and wood shavings are visible. The background shows stacks of lumber and industrial equipment.

WOOD FACTORY ANALYSIS

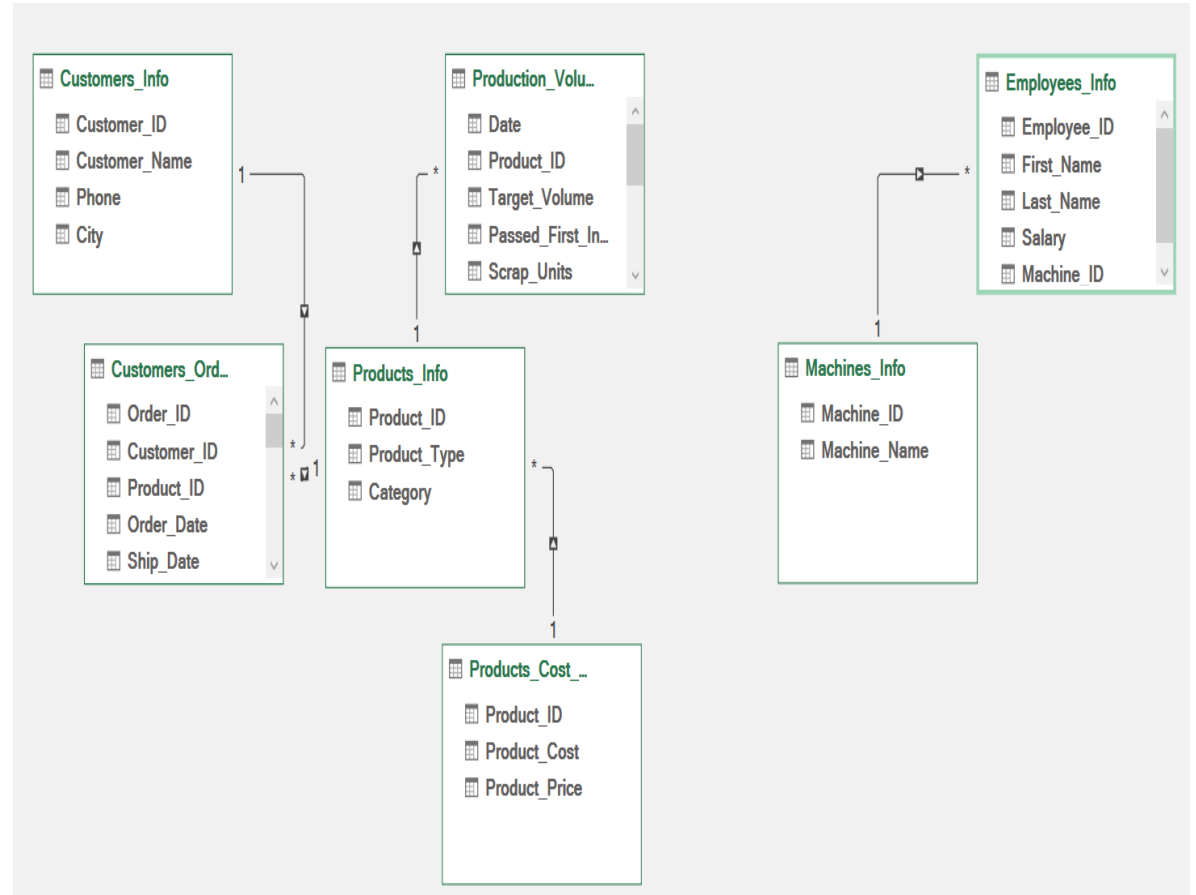
Project Description

- The project aims to provide detailed insights into the sales performance, production volume, and product acceptance rates in the wood factory. By using a synthetic dataset, the project tracks key performance indicators (KPIs) like total sales, total profit, product acceptance rates, and customer behavior, helping in strategic decision-making for business optimization.

Overall Description of Tables in Wood Factory Analysis Project

This project analyzes the performance and efficiency of a wood factory through a series of interconnected tables. Each table serves a specific purpose in providing insights into sales, production, customer behavior, and product performance.

1. **Sales Table:** This table tracks the sales performance of wood products, including total sales, profit, quantity sold, and customer details. It allows for analysis of revenue generation and trends over time.
2. **Production Volume Table:** This table monitors production metrics, capturing data on total units produced, accepted units, rejected units, and acceptance rates. It aids in assessing production efficiency and quality control.
3. **Customer Table:** This table provides insights into customer behavior by detailing customer names, cities, total orders, and revenue generated. It helps identify key customers and trends in purchasing behavior.
4. **Product Tables:** This table contains essential information about wood products, including pricing, standard costs, and profit margins. It supports profitability analysis and pricing strategies.
5. **Machines Table:** This table contains essential information about machines used in this factory
6. **Employees:** This table contains essential information about each employee, salary, machine that work on and personal info



Wood Factory Dashborad

Numbear of Category

4

Total Machines

18

Total Employees

544

Avg Employee salaries

17781.2

Number of CST

568

Number of Product

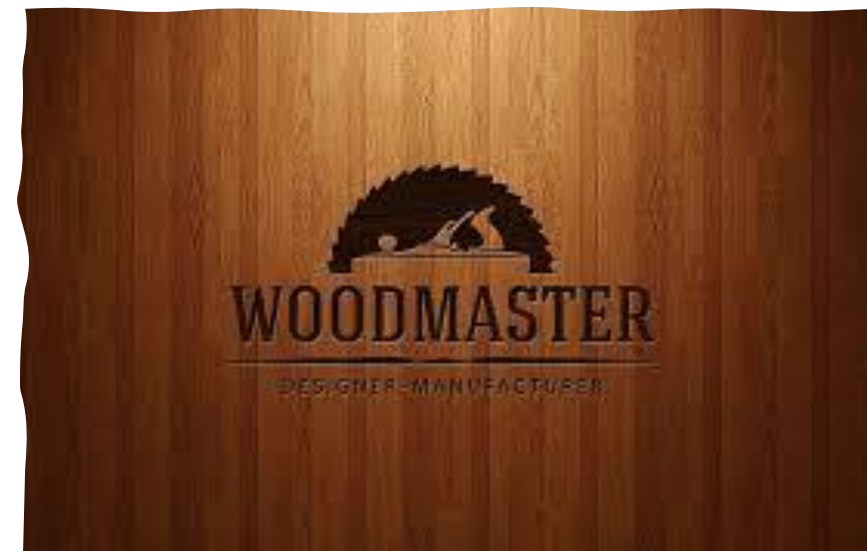
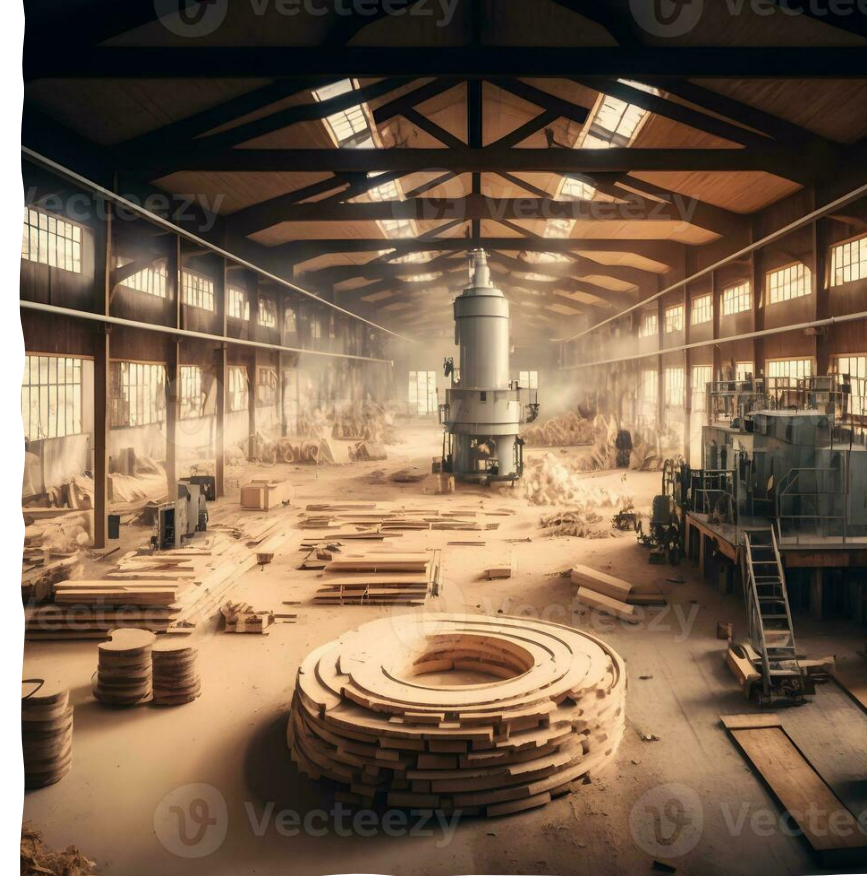
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Wood Factory Overview

- **Number of Product Categories:** 4 categories, indicating the different types of wood products manufactured by the factory.
- **Total Machines:** 18 machines are used in the factory, giving an indication of the production capacity.
- **Total Employees:** The factory employs 544 workers, which provides insight into the scale of operations and labor resources.
- **Average Employee Salary:** 17,781.2 (currency not specified), which helps in assessing the labor cost per employee.
- **Number of CST (likely meaning customers or suppliers):** 568, which reflects the number of business partners or customers involved in transactions.
- **Number of Products:** 30 different wood products are manufactured, highlighting the diversity of production lines.

These metrics provide an overall view of the factory's scale, production capabilities, and workforce structure, which is essential for assessing operational efficiency, product diversity, and labor costs.





Wood Production Volume



T-FPY

17,233,894



T-Targeted

19,291,400



T-Rework

1,138,064



T-Scrap

1,138,449

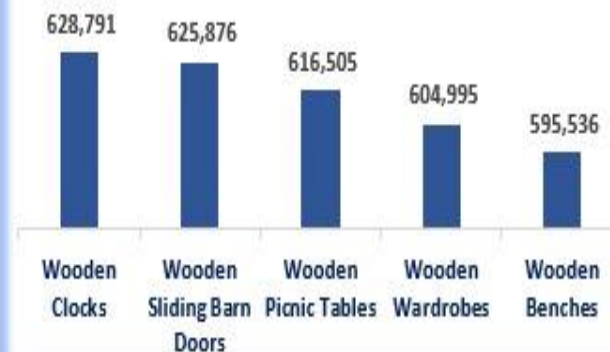
T_Scrap Units by Category

Home Decor	380,966
Furniture	377,875
Doors and Windows	190,212
Outdoor Products	189,396

T_FPY by Category

Home Decor	5,778,534
Furniture	5,693,782
Outdoor Products	2,885,562
Doors and Windows	2,876,016

Top 5 Products



Main KPIs

FPY Rate



88%

Scrap Rate



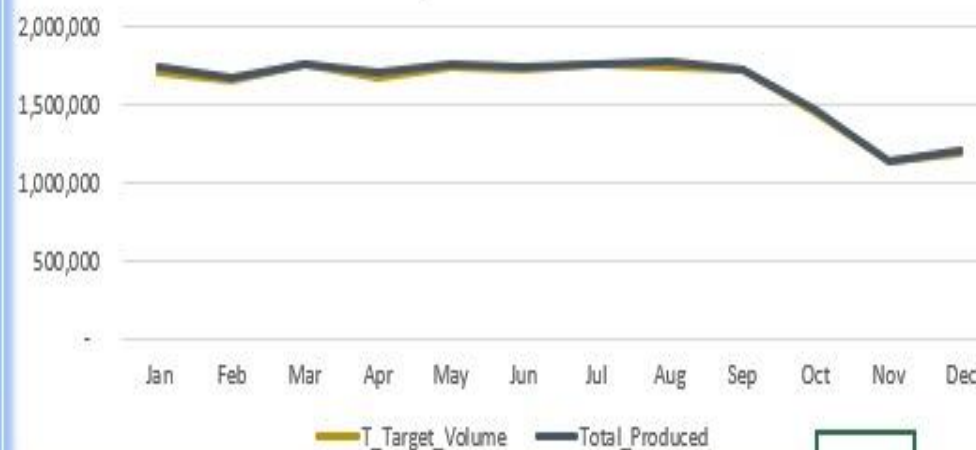
6%

% of Target

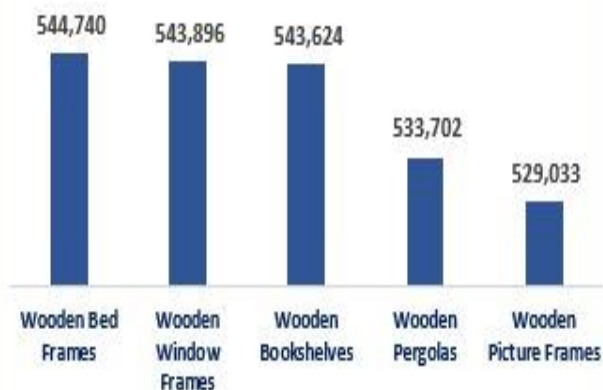


101%

Monthly Production Volume



Bottom 5 Products



Production Metrics

1

Total First Pass Yield (T-FPY): 17,233,894 units successfully produced without requiring rework.

2

Targeted Production: 19,291,400 units, indicating the target volume for production.

3

Total Rework: 1,138,064 units, highlighting the products that needed rework.

4

Total Scrap: 1,138,449 units, representing the defective or unusable products.

First Pass Yield (FPY) by Category

- **Home Decor:** 5,778,534 units passed the first quality check.
- **Furniture:** 5,693,782 units.
- **Outdoor Products:** 2,885,562 units.
- **Doors and Windows:** 2,876,016 units.

T_FPY by Category	
Home Decor	5,778,534
Furniture	5,693,782
Outdoor Products	2,885,562
Doors and Windows	2,876,016

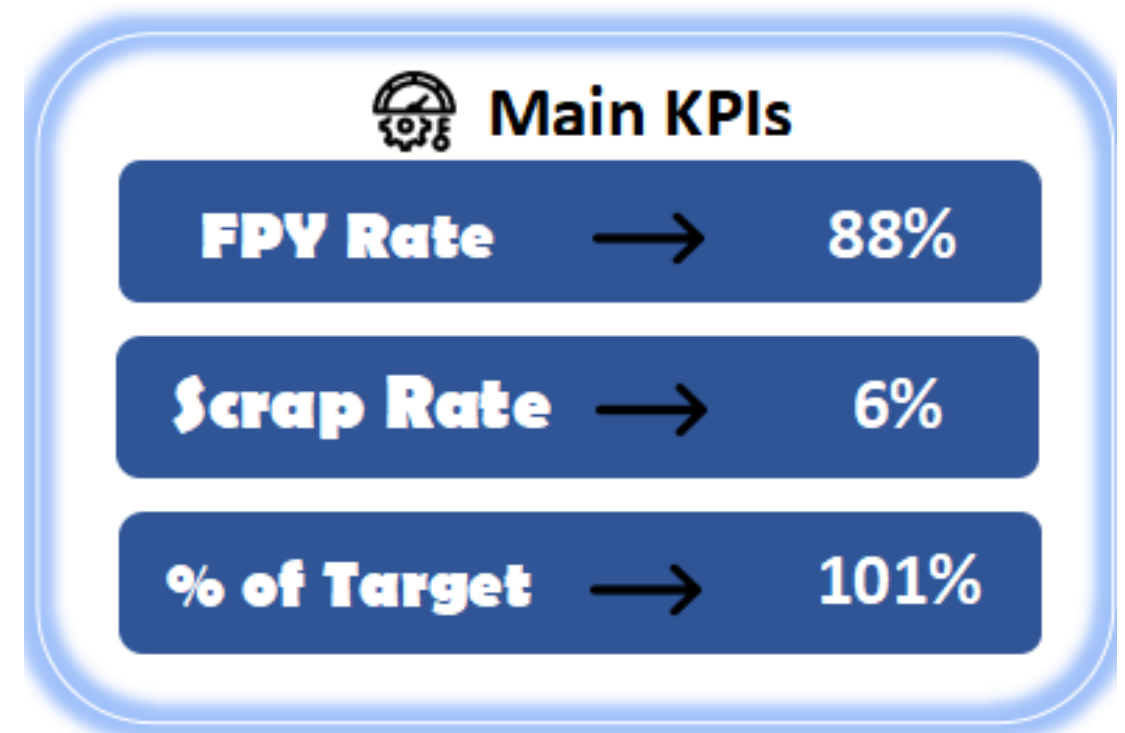
Scrap Units by Category

- **Home Decor:** 380,966 units scrapped.
- **Furniture:** 377,875 units scrapped.
- **Doors and Windows:** 190,212 units scrapped.
- **Outdoor Products:** 189,396 units scrapped.



Main KPIs

- **FPY Rate:** 88%, indicating the percentage of units that passed the first production cycle without needing rework.
- **Scrap Rate:** 6%, showing the percentage of units scrapped.
- **% of Target:** 101%, demonstrating that the factory slightly exceeded its production target.



Production Volume

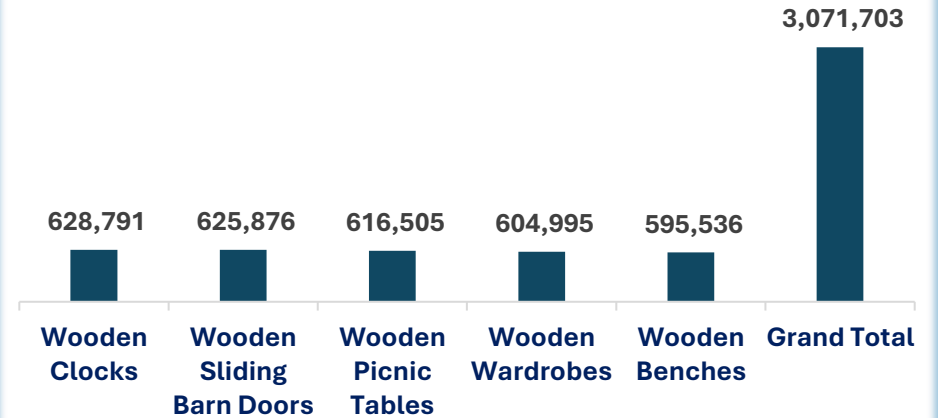
Top 5 Products

- **Wooden Clocks:** 628,791 units.
- **Wooden Sliding Barn Doors:** 625,876 units.
- **Wooden Picnic Tables:** 616,505 units.
- **Wooden Wardrobes:** 604,995 units.
- **Wooden Benches:** 595,536 units.

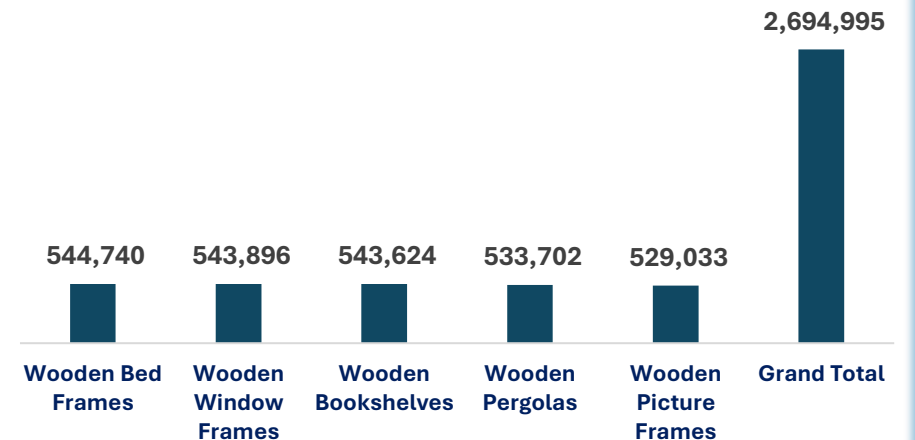
Bottom 5 Products

- **Wooden Bed Frames:** 544,740 units.
- **Wooden Window Frames:** 543,896 units.
- **Wooden Bookshelves:** 543,624 units.
- **Wooden Pergolas:** 533,702 units.
- **Wooden Picture Frames:** 529,033 units.

Top 5 Products

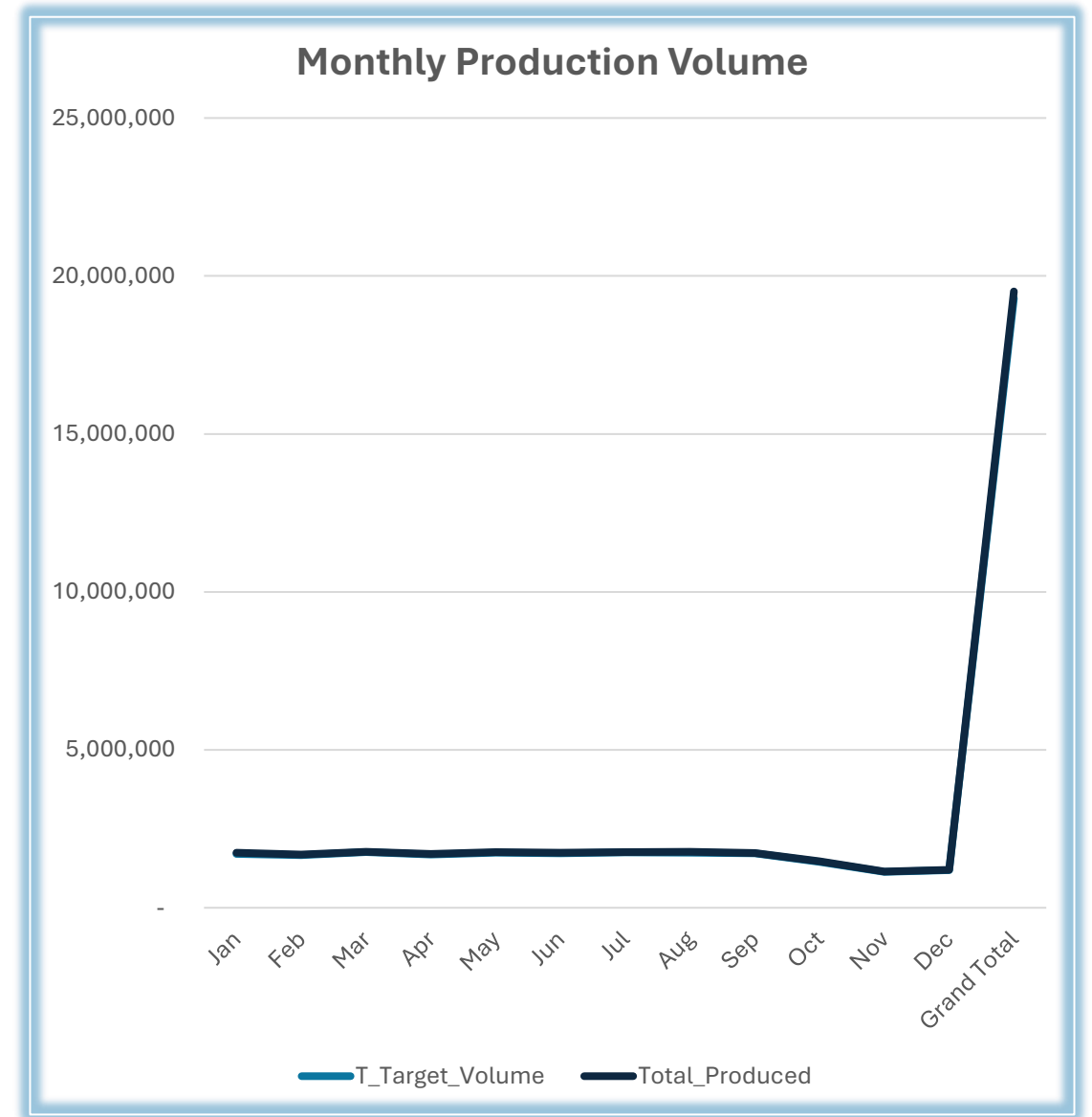


Bottom 5 Products



Monthly Production Volume

- The graph shows a stable production volume from January to September, with a slight decline in October and December, comparing actual production versus the targeted volume.





Total Orders

1656

Qtr4

Production Volume

Month	Population (thousands)
Jan	31,000
Feb	30,500
Mar	32,500
Apr	30,500
May	31,500
Jun	31,000
Jul	30,500
Aug	29,500
Sep	30,500
Oct	29,000
Nov	28,500
Dec	30,500

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Monthly Sales Trend

Month	Sales	Expected Sales
Jan	5,500,000	7,500,000
Feb	5,800,000	9,000,000
Mar	6,000,000	9,500,000
Apr	4,500,000	7,500,000
May	7,000,000	10,500,000
Jun	5,800,000	9,000,000
Jul	6,000,000	8,500,000
Aug	4,500,000	7,000,000
Sep	5,500,000	8,500,000
Oct	4,500,000	6,000,000
Nov	4,000,000	6,000,000
Dec	4,500,000	6,500,000

Month	Actual Profit (₹)	Expected Profit (₹)
Jan	28,000	52,000
Feb	30,000	60,000
Mar	30,000	62,000
Apr	22,000	52,000
May	38,000	68,000
Jun	28,000	60,000
Jul	32,000	55,000
Aug	25,000	48,000
Sep	28,000	58,000
Oct	22,000	40,000
Nov	20,000	40,000
Dec	25,000	45,000

Product	Cost (\$)
Wooden Planter Boxes	0.34
Wooden Window Frames	0.45
Wooden Wall Shelves	0.57
Wooden Picnic Tables	0.57
Wooden Tray Sets	0.57
Wooden Windbreaks	0.57
Wooden Shutters	0.68
Wooden Coat Racks	0.83
Wooden Outdoor Decking	0.83
Wooden Exterior Doors	0.89

- Doors and Windows
- Furniture
- Home Decor
- Outdoor Products

- Doors and Windows
- Furniture
- Home Decor
- Outdoor Products

Author	Axis Title
Pamela Cook	1.00
Maria Lopez	1.00
Jeffrey Hunter	1.00
Catherine Green	1.00
Terry Cook-dean	1.00
Debra Pace	1.00
Dawn B. Hunt	1.00
Jennifer Manning	1.00
Mary Stark	1.00
Susan de Cothran	0.50

Text Sample	Average Words per Sentence
Prose	0.64
Poetry	0.68
Drama	0.64
Speech	0.63
News	0.62
Fiction	0.62
Non-Fiction	0.62
Academic	0.56
Technical	0.55
Informal	0.53

City	Population
Qena	5363410
Zagazig	4306455
Alexandria	3966055
Sohag	3600915
El-Mahalla El-Kubra	3600255
Ismailia	3505695
Tanta	3425445
Aoyut	3400950
Cairo	3405755
Damanhuta	3317055

User	Likes
Beth Berry	52,555
Mark Marks	52,900
Heather Price	51,750
Jacob Knight	46,110
Michelle Reed	46,000
Leah Hill	42,800
Michelle Joseph	49,100
Allison Savage	45,250
David Stewart	44,000
Wendy Green	52,100

Author	Books Sold
Roald Dahl	3750
Mark Twain	3675
Tiffany Atties	3600
Cheryl Egan	3000
Christopher Elliott	2750
Sabrina Lewis	2520
Randy Green	1820
Nathan Crane	1620
Patrick Morrison	1500
Mark Douglas	180

Overall Sales Performance

Overall Sales Performance

- **Total Sales:** 6,479,259 units
- **Total Profit:** 3,286,520
- **Total Quantity Sold:** 1,226,882 units
- **Total Orders:** 1,656 orders

The business has achieved substantial sales with a strong profit margin, indicating solid financial performance.



Monthly Trends



Monthly Quantity Trend: There's a stable pattern with slight fluctuations throughout the year. Sales volumes peak around mid-year (June, July), and there are smaller peaks towards the end of the year.



Monthly Sales Trend: Follows the same trajectory as the quantity trend, indicating consistency between volume and sales.



Monthly Profit Trend: The profit closely aligns with sales, with dips and rises in similar months, but generally remains high throughout the year.



Product Performance

Top Performing Products by Average Accepted Units:

- **Wooden Planter Boxes** and **Wooden Window Frames** are the top performers, with high acceptance rates around **0.92 to 0.88**.

Bottom Performing Products by Average Accepted Units:

- Wooden Exterior Doors and Wooden Chairs have relatively lower acceptance rates, around **0.82 to 0.85**, indicating potential areas for product improvement or market focus.

Customer Insights

01

Top 10 Customers by Accepted Units: Customers **Mohamed Ahmed** and **Ziad Eslam** show strong engagement, with high acceptance rates (around 1.00).

02

Bottom 10 Customers by Accepted Units: Customers such as **Magdy Mohamed** and **Ahmed Ramy** acceptance rates (around 0.82 to 0.85), pointing to potential dissatisfaction or delivery issues.

03

Top 10 Cities by Sales: **Cairo** and **Alexandria** are among the top sales-driving cities, with cities like **Zagazig** and **Giza** also contributing significantly and Qena is the top city

Sales and Profit by Category



- **Furniture** and **Doors & Windows** are the dominant categories, contributing the largest shares to both sales and profit.
- **Outdoor Products** and **Home Decor** have smaller contributions, but still play a key role in the overall business.

Customer Sales Insights

- **Top 10 Customers by Sales:** Beth Barry leads with the highest sales, followed by **Mohamed Ahmed** and **Ziad Eslam**
- **Bottom 10 Customers by Sales:** **Magdy Mohamed** and **Ahmed Ramy** have the lowest sales figures, indicating a need for improved engagement or understanding of their needs.



Profit and Sales Breakdown

- **Profit by Category:** Doors and Windows are responsible for most of the profit, followed by Furniture and Outdoor Products.
- **Total Sales by Category:** The sales breakdown follows a similar trend, with Doors and Windows generating the most revenue, followed by Furniture and Outdoor Products.



Key Focus Areas



Product Improvement: There is an opportunity to improve acceptance rates for some products, particularly **Wooden Chairs** and **Wooden Exterior Doors**.



Customer Retention: Engaging with bottom-tier customers and cities can boost sales and acceptance rates.



Rejected Units: Reducing the rejection rate could improve overall profitability and efficiency.

THANK YOU

FOR WOOD FACTORY ANALYSIS

