Superstore Sales Analysis

# Project Planning & Management

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# Project Proposal

## Overview

This project provides a comprehensive analysis of Superstore sales from 2015 to 2018 to identify inefficiencies, enhance overall performance, and drive data-informed decisions using business intelligence tools.

## Objectives

- Detect cost-saving opportunities across departments.  
- Optimize sales strategy by identifying high-performing products and segments.  
- Deliver actionable insights for decision-makers through advanced dashboards.

## Scope

Sales performance over time  
Customer segmentation  
Product category/subcategory performance  
Geographic and temporal trends  
Tools used: Excel, Power BI, Tableau, and Python

# Project Plan

## Milestones

1. Data acquisition, cleaning, and preprocessing  
2. Development of interactive dashboards  
3. Final presentation with business recommendations

## Resource Allocation

Tools:  
- Excel: Initial data profiling and visualization  
- Power BI: Sales and performance dashboards  
- Tableau: Visual storytelling and drill-down analysis  
- Python: Advanced data processing

Team Roles:  
- Ahmed Akram Serag (Team Leader): preprocessing, Power bi dashboard development, and analytics coordination  
- Amal Habeb: Excel dashboard creation and statistical summaries  
- Osama Ezz Al Arab: Tableau dashboard development, excel dashboard development, and presentation   
- Hesham Abdeltawab: Data cleaning, preprocessing using python, and excel dashboard and documentation  
- Mennatalla Tarek: Tableau dashboard development and visual analysis and documentation

# Risk Assessment & Mitigation

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| --- | --- | --- |
| Risk | Description | Mitigation Strategy |
| Data Quality Issues | Missing/incomplete values or outliers | Implement robust data cleaning and validation |
| Project Delays | Due to tool learning curves or external dependencies | Establish contingency timelines and clear task assignments |
| Technical Challenges | Difficulties in dashboard integration or advanced analytics | Provide tool-specific training and expert support |

# Key Performance Indicators (KPIs)

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| KPI | Value | Insight |
| Total Sales | 2,261,537 | Strong overall sales performance across years |
| Total Customers | 793 | Limited customer base, highlighting potential for growth |
| Sales Growth | 722.05K (↑23.5%) | Positive YoY growth rate |
| Top Categories by Sales | Technology: 827.46K, Furniture: 728.66K, Office Supplies: 705.42K | Technology leads in revenue |
| Top Subcategory | Office Supplies | Indicates strong sales potential in business essentials |
| Customer Segmentation by Sales | Home Office: 18.79%, Corporate: 30.44%, Consumer: 50.76% | Consumer segment contributes the most revenue |
| Customer Segmentation by Count | Consumer: 409, Corporate: 236, Home Office: 148 | Consumer is the largest segment by customer count |
| Sales Trend Peak | 119.83K in Oct 2018 | Seasonal trend showing high performance in late 2018 |
| Top Customer | Sean Miller (25K in total sales) | Most valuable customer |
| Second Top Customer | Tameem Chand (19K) | Key account worth focusing on |
| Top 10 Customer Contribution | Top 10 customers contribute significantly to total sales | Reflects reliance on a small group of high-value customers |

Performance Over Time:  
- Consistent upward sales trend from 2015 to 2018  
- Notable sales peaks in Q4 across years  
- Clear indication of growth despite some volatility

# Recommendations

- Focus marketing efforts on Home Office customers, the largest segment.  
- Expand Technology and Office Supplies categories, given their consistent top performance.  
- Investigate low-performing months to identify operational inefficiencies or missed opportunities.  
- Use predictive analytics for future sales forecasting and inventory planning.  
-Focus retention and loyalty efforts on high-value customers (e.g., Sean Miller, Tameem Chand).  
-Consider segment-based campaigns, with special promotions for the large Consumer segment.