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ANNUAL STORE REPORT DASHBOARD USING EXCEL

A PROJECT REPORT

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Title of the Project

Annual Store Report 2022 Dashboard for Retail Analysis

Basic Introduction

This project involves creating a comprehensive dashboard to analyze annual sales data for a retail business. The goal of this dashboard is to provide a visual summary of key metrics, such as sales trends, order statuses, and demographic insights, helping stakeholders make informed business decisions.

Project Description

The "Annual Store Report 2022" project is a comprehensive dashboard created to analyze and visualize the performance of a retail business over the year. This report is designed to provide insights into various aspects of store performance, customer demographics, and sales trends. By aggregating and visualizing data across multiple parameters such as month, sales channel, product category, customer gender, age group, and geographic region, the report aims to help business stakeholders understand the business dynamics and make informed decisions.

This dashboard is especially useful for identifying high-performing sales channels, understanding customer preferences, and tracking sales trends throughout the year. The goal is to enable data-driven decision-making, allowing store managers and executives to optimize inventory, target specific customer segments, and strategize future growth.

The report leverages the following major metrics and visualizations:

- **Orders vs Sales:** Tracks monthly order counts and sales amounts to highlight seasonal trends, peaks, and troughs. This helps in planning marketing and inventory for high-sales periods.
- **Sales by Gender:** Analyzes the breakdown of sales by gender (men vs. women), giving insights into which demographic contributes more to the store's revenue.
- **Order Status:** Categorizes orders based on their status (e.g., delivered, returned, refunded, canceled) to help in understanding order fulfillment success rates and customer satisfaction.
- **Top Sales States:** Identifies the top-performing states based on sales volume. This assists the business in understanding geographic demand and potential areas for expansion.
- **Order by Age vs Gender:** Shows the distribution of orders among different age groups for each gender, providing insights into the age demographics and gender preferences.
- **Orders by Channel:** Breaks down sales by channel (e.g., Amazon, Flipkart, Myntra) to evaluate the effectiveness and reach of different sales platforms.

This dashboard is interactive, allowing users to filter the data by month, channel, and category, which makes it easier to focus on specific areas of interest. Each visualization serves a purpose, from understanding customer behavior to analyzing operational metrics, thus giving a 360-degree view of the store's performance in 2022.

The report is created using Excel's Power Pivot and Power Query tools, combining the power of data aggregation with user-friendly visualizations. This approach allows stakeholders to quickly and accurately assess the store's annual performance, spot emerging trends, and identify areas for improvement.

Key Components and Their Functions

1. **Orders vs Sales Chart:** Displays monthly sales and order count, allowing users to track sales trends and order volumes over the year.
2. **Sales: Men vs Women:** A pie chart showing the sales distribution between male and female customers.

3. Order Status: A breakdown of order statuses such as delivered, returned, cancelled, and refunded.
4. Sales: Top 5 States: A bar chart identifying the top-performing states in terms of sales.
5. Order: Age vs Gender: A comparison of order distribution across different age groups and genders.
6. Orders by Channel: A pie chart representing the share of orders from different sales channels, such as Amazon, Flipkart, Myntra, etc.

Working

The dashboard operates by aggregating and filtering data using Excel's Power Pivot and slicer features. Users can select specific months, channels, and product categories to dynamically filter the visualizations and gain insights into specific segments of the business.

Literature Review

The literature review for this project delves into existing studies, methodologies, and technologies used in the retail industry for performance analysis, customer segmentation, and sales forecasting. This review draws from academic research, industry reports, and case studies on data analytics, retail dashboard creation, and business intelligence (BI) systems, providing a foundational understanding of how data-driven decision-making enhances business outcomes.

1. Retail Analytics and Business Intelligence

- Retail analytics is a rapidly growing field that utilizes data analysis and business intelligence tools to help retail businesses optimize performance. According to Chen et al. (2012), retail analytics enables companies to gain a competitive advantage by identifying customer preferences, forecasting demand, and personalizing marketing strategies. Business intelligence (BI) tools such as dashboards play a critical role in enabling non-technical users to understand complex data sets through visualizations.
- Tools like Microsoft Power BI, Tableau, and Excel Power Pivot are commonly used in retail to generate insights from large datasets. Retail dashboards allow managers to visualize sales performance, monitor inventory levels, and analyze customer demographics in real-time, enhancing the decision-making process (Turban et al., 2011).

2. Importance of Sales Analysis in Retail

- Sales analysis is essential for understanding a store's revenue streams, peak seasons, and product demand. Studies by Kotler & Keller (2015) highlight that analyzing sales trends can help retail managers identify high-demand products, develop promotional strategies for low-sales periods, and allocate resources more effectively. Monthly sales trend analysis, such as the "Orders vs Sales" graph in this project, helps in identifying seasonality patterns and adjusting stock and staffing accordingly.
- Analyzing sales by region, as seen in the "Top Sales States" visualization, is also crucial for geographic expansion. Geographic sales data can reveal regional preferences, enabling retailers to tailor their offerings and promotions to specific markets (Levy & Weitz, 2009).

3. Customer Demographics and Segmentation

- Segmenting customers by demographics like age, gender, and geography is a well-established practice in retail. Insights into customer demographics allow companies to craft personalized marketing campaigns and product assortments that appeal to specific segments. For example, Lemon and Verhoef (2016) discuss how gender segmentation can significantly impact sales strategies, allowing businesses to tailor product lines and advertising to male and female audiences.
- Age-based segmentation is also widely researched; Kumar & Rajan (2009) found that different age groups have varying shopping behaviors and preferences. This project's "Order: Age vs Gender" analysis allows the

business to understand which age groups are most active and whether there are gender-based differences in purchasing behaviors within each age group.

4. Channel Performance Analysis

- In the multi-channel retail environment, assessing the performance of each channel (e.g., online marketplaces like Amazon, Flipkart, etc.) is crucial. Research by Neslin et al. (2006) highlights the importance of tracking sales by channel to determine the profitability of each platform. Different channels may have different customer bases, order values, and marketing costs, which affect the overall profitability.
- Studies suggest that understanding channel effectiveness can guide budget allocation for marketing and partnerships. For example, Amazon and Flipkart may require distinct marketing tactics compared to niche platforms like Myntra and Meesho, due to differences in customer demographics and purchase behavior (Verhoef et al., 2015).

5. Order Fulfillment and Customer Satisfaction

- Order fulfillment is another critical area for retail success. Research by Choi and Cheng (2015) emphasizes the need to monitor order status to assess service reliability. A high percentage of delivered orders indicates efficient operations, while canceled or refunded orders may highlight potential issues with inventory, logistics, or customer satisfaction.
- Analyzing the ratio of completed to canceled or refunded orders can reveal operational bottlenecks and areas for improvement. Understanding this aspect of the business is important for customer retention, as a high rate of returns or cancellations can negatively impact customer satisfaction and brand loyalty (Anderson & Srinivasan, 2003).

Parameters Used in This Project

1. Month: To filter sales data on a monthly basis.
2. Channel: The source of the order (Amazon, Flipkart, etc.).
3. Category: Product categories such as Blouse, Bottom, Ethnic Dress, and Kurta.
4. Sales: Total sales amount.
5. Order Status: Status of the orders (Delivered, Returned, Cancelled, etc.).
6. Gender & Age: Demographics used for customer segmentation.

Analysis of Parameters

- Monthly Sales: Identifies peaks and drops in sales, indicating seasonality or impact of marketing campaigns.
- Gender & Age Distribution: Provides insights into which demographic is most engaged with the brand.
- Top Sales Regions: Reveals the geographical areas contributing the most to sales, useful for targeted marketing.
- Channel Performance: Shows which platforms (e.g., Amazon, Flipkart) are most effective, allowing for channel-specific strategies.

Complete Dashboard Screenshot

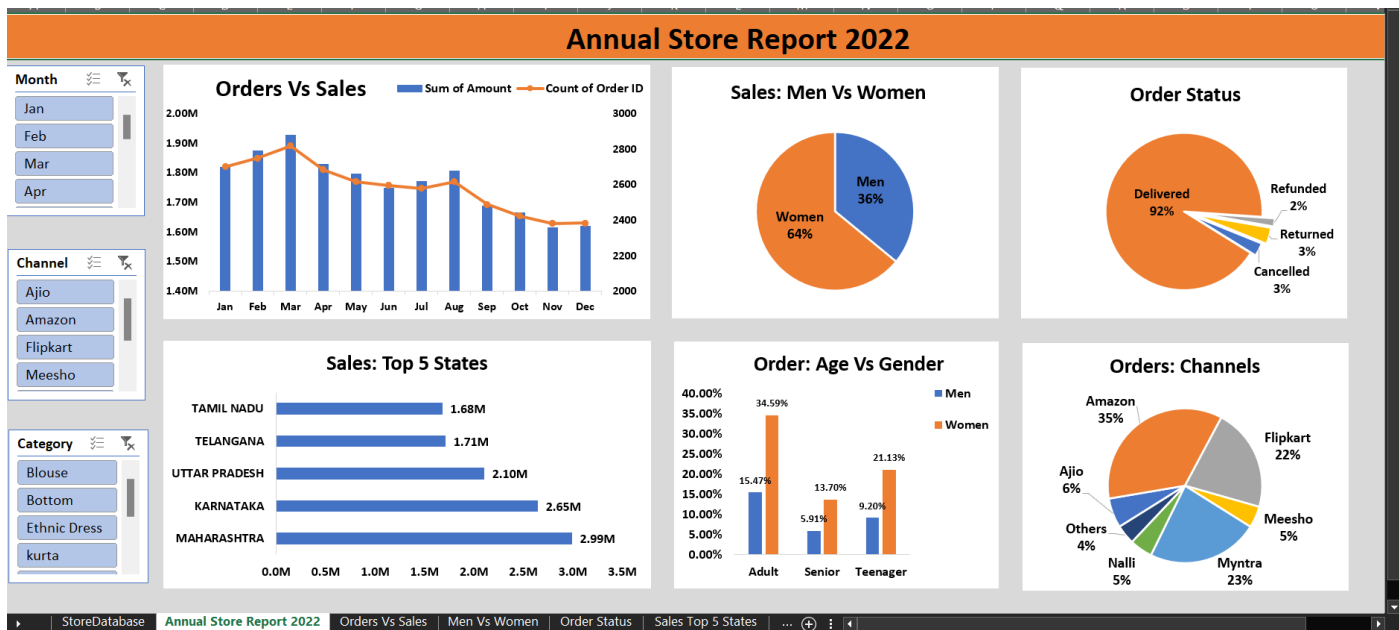
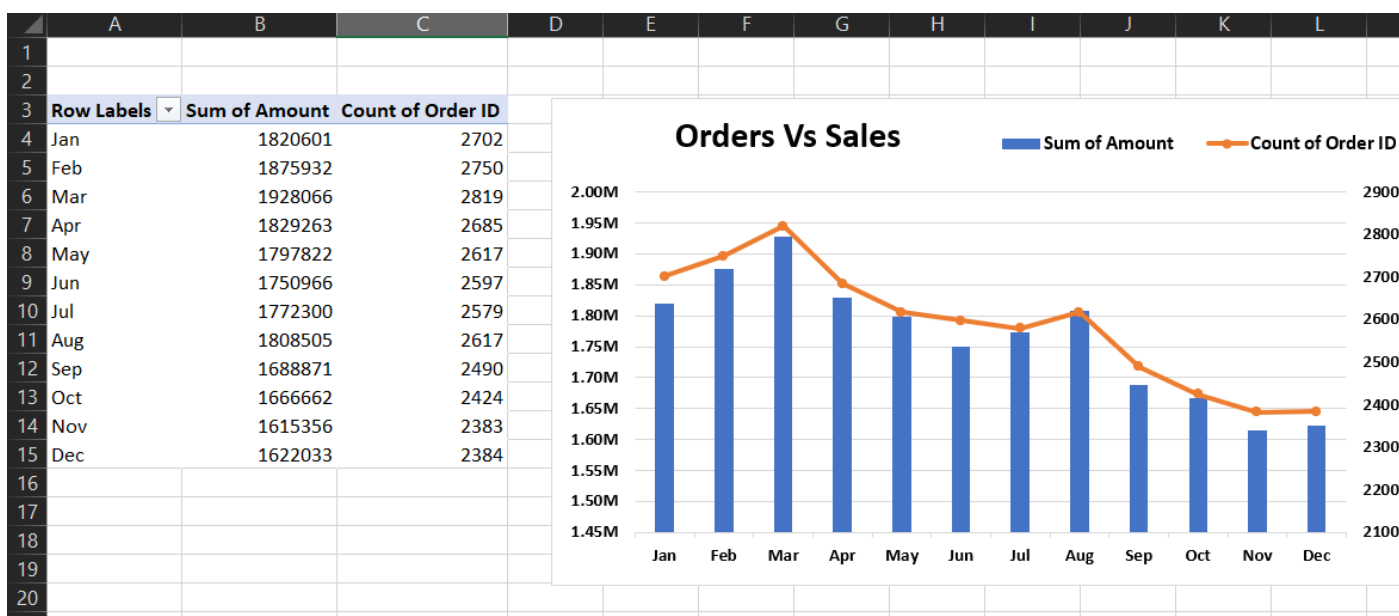
Annual Store Report.xlsx - Excel

Satyam Kumar Thakur

FileHomeInsertPage LayoutFormulasDataReviewViewHelpPower PivotTell me what you want to do

H2=TEXT(G2,"mmm")

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	
	Index	Order ID	Cust ID	Gender	Age	Age Group	Date	Month	Status	Channel	SKU	Category	Size	Qty	Current	Amount	Ship-city	
2	1	171-1029312-3038738	1029312	Women	44	Adult	04-12-2022	Dec	Delivered	Myntra	JNE1233-BLUE-KR-031-XXL	kurta	XXL	1	INR	376	MOHALI	
3	2	405-2183842-2225946	2183842	Women	29	Teenager	04-12-2022	Dec	Delivered	Ajio	SET414-KR-NP-L	Set	L	1	INR	1449	GURUGRAM	
4	3	171-1641533-8921966	1641533	Women	67	Senior	04-12-2022	Dec	Delivered	Myntra	SET261-KR-PP-S	Set	S	1	INR	453	KOLKATA	
5	4	404-7490807-6300351	7490807	Women	20	Teenager	04-12-2022	Dec	Delivered	Amazon	SET110-KR-PP-M	Set	M	1	INR	729	THANJAVUR	
6	5	403-9293516-4577154	9293516	Women	62	Senior	04-12-2022	Dec	Delivered	Myntra	JNE2294-KR-A-XXL	kurta	XXL	1	INR	544	GURUGRAM	
7	6	407-1298130-0368305	1298130	Men	49	Adult	04-12-2022	Dec	Delivered	Flipkart	JNE3797-KR-XXL	Western Dress	XXL	1	INR	735	SANGLI MIRAJ KUPWAD	
8	7	407-1298130-0368305	1298130	Women	23	Teenager	04-12-2022	Dec	Delivered	Meesho	JNE3801-KR-XXL	kurta	XXL	1	INR	735	BENGALURU	
9	8	171-5561216-3398711	5561216	Women	70	Senior	04-12-2022	Dec	Delivered	Others	JNE3405-KR-M	kurta	M	1	INR	435	GURUGRAM	
10	9	408-2935263-2935550	2935263	Women	75	Senior	04-12-2022	Dec	Delivered	Amazon	JNE3474-KR-E-XL	kurta	XL	1	INR	385	BENGALURU	
11	10	404-2648970-9042715	2648970	Women	43	Adult	04-12-2022	Dec	Delivered	Myntra	JNE3466-KR-L	kurta	L	1	INR	771	VIJAYAWADA	
12	11	404-2648970-9042715	2648970	Women	76	Senior	04-12-2022	Dec	Delivered	Amazon	JNE3795-KR-S	kurta	S	1	INR	517	THIRUVANANTHAPURAM	
13	12	404-2648970-9042715	2648970	Women	45	Adult	04-12-2022	Dec	Delivered	Myntra	J0181-TP-M	Top	M	1	INR	399	ARAKONAM	
14	13	408-0265357-4939534	265357	Women	18	Teenager	04-12-2022	Dec	Delivered	Amazon	SET217-KR-PP-XL	Set	XL	1	INR	786	GUWAHATI	
15	14	403-9268874-7296313	9268874	Men	44	Adult	04-12-2022	Dec	Delivered	Myntra	SET185-KR-NP-M	Set	M	1	INR	911	BENGALURU	
16	15	407-0442660-2736366	442660	Women	52	Senior	04-12-2022	Dec	Delivered	Amazon	SET333-KR-DPT-M	Set	M	1	INR	967	HYDERABAD	
17	16	406-7482261-1657136	7482261	Women	18	Teenager	04-12-2022	Dec	Delivered	Nalli	J0124-TP-L	Top	L	1	INR	523	NEW DELHI	
18	17	407-7039962-7080347	7039962	Men	30	Adult	04-12-2022	Dec	Delivered	Meesho	SET304-KR-DPT-XL	Set	XL	1	INR	1115	Bhubaneswar	
19	18	407-3422488-7373923	3422488	Women	48	Adult	04-12-2022	Dec	Delivered	Others	SET184-KR-PP-XS	Set	XS	1	INR	563	SIROHI	
20	19	171-8974687-6745940	8974687	Men	24	Teenager	04-12-2022	Dec	Delivered	Myntra	J0161-DR-XXL	Western Dress	XXL	1	INR	473	MUMBAI	
21	20	406-0244536-217175	244536	Women	46	Adult	Series Total Point "TAMIL NADU" Data Label on	04-12-2022	Dec	Delivered	Amazon	SET233-KR-PP-M	Set	M	1	INR	545	AMRITSAR
22	21	404-4376789-3345166	4376789	Women	43	Adult		04-12-2022	Dec	Delivered	Nalli	J0231-SKD-XXXL	Set	3XL	1	INR	1164	LUCKNOW
23	22	408-1943310-9789160	1943310	Men	31	Adult	04-12-2022	Dec	Refunded	Myntra	J0339-DR-XXL	Western Dress	XXL	1	INR	743	NEW DELHI	
24	23	403-0950590-5005155	950590	Men	30	Adult	04-12-2022	Dec	Delivered	Myntra	SET210-KR-PP-XXXL	Set	3XL	1	INR	575	MADURAI	
25	24	406-3935670-5720350	3935670	Women	19	Teenager	04-12-2022	Dec	Delivered	Ajio	SET110-KR-PP-XS	Set	XS	1	INR	788	Meerut	
26	25	402-0398999-0011565	398999	Women	37	Adult	04-12-2022	Dec	Delivered	Amazon	SET273-KR-NP-M	Set	M	1	INR	612	HYDERABAD	
27	26	403-5438780-7231546	5438780	Women	37	Adult	04-12-2022	Dec	Delivered	Others	MEN5025-KR-XXL	kurta	XXL	1	INR	533	INDORE	
28	27	406-8343960-8137102	8343960	Women	62	Senior	04-12-2022	Dec	Delivered	Flipkart	JNE3690-TU-XL	Top	XL	1	INR	484	DAVANAGERE	
29	28	406-0986513-0498758	986513	Men	20	Teenager	04-12-2022	Dec	Delivered	Flipkart	SET184-KR-PP-XXXL	Set	3XL	1	INR	563	RUDRAPUR	
30	29	406-0947452-6044339	947452	Men	77	Senior	04-12-2022	Dec	Delivered	Flipkart	JNE3797-KR-XXL	Western Dress	XXL	1	INR	735	CHENNAI	
31	30	406-1326018-3426760	1326018	Men	26	Teenager	04-12-2022	Dec	Delivered	Amazon	SET183-KR-DH-XS	Set	XS	1	INR	759	PRAYAGRAJ	
32	31	406-9281717-2212317	9281717	Men	40	Adult	04-12-2022	Dec	Delivered	Amazon	JNE3797-KR-XXL	Western Dress	XXL	1	INR	715	GREAT NICOBAR	
33	32	408-6866119-6793128	6866119	Men	52	Senior	04-12-2022	Dec	Delivered	Amazon	J0414-DR-XXL	Western Dress	XXL	1	INR	885	AHMEDABAD	



Limitations

1. Data Granularity: The data may lack granularity if not updated frequently.
2. Static Reporting: Without automation, the dashboard needs manual updates to reflect the latest data.
3. Limited to Excel: Complex data models and interactive features may require more advanced BI tools like Power BI or Tableau for scalability.

Future Work

1. Automate Data Updates: Use Power Query or connect to live databases for real-time updates.
2. Implement Predictive Analytics: Use statistical models to predict sales trends based on historical data.
3. Expand Demographic Insights: Include more granular demographics such as income levels, occupation, etc.
4. Enhanced Interactivity: Consider building the dashboard on a BI platform like Power BI or Tableau for more dynamic filtering.

References

1. Relevant Excel and Power Pivot documentation.
2. Research articles on retail data analysis.
3. Books and tutorials on data visualization best practices.

GitHub Screenshots and Links

1. Repository Link: <https://github.com/Divyam9472/Annual-Store-Data-Analysis/blob/main/README.md>
2. Screenshots of key code files uploaded on GitHub, such as the raw data file and any supporting scripts.

