Chandigarh University

“VISHAL STORE SALES CANALYSIS”

A MINI PROJECT REPORT OF DATA INTERPRETATION LAB

Submitted by

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BONAFIDE CERTIFICATE

Certified that this project report **"VISHAL STORE SALES ANALYSIS"** is the Bonafide work of "**RANU KUMAR"** who carried out the project work under supervision of **Mr. Gagandeep Chawla**

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INTERNAL EXAMINER

EXTERNAL EXAMINER

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ABSTRACT

The objective of this project is to analyze and evaluate the sales performance of Vishal Store over the year 2024 using transactional and customer data. The analysis leverages order details, customer demographics, channel preferences, and regional distribution to extract actionable insights and support strategic decision-making.

By examining key metrics such as total sales, order status distribution, customer segmentation (by gender and age group), channel performance, and regional sales breakdown, the project aims to uncover trends and patterns that influence business outcomes. The data visualization dashboard provides a comprehensive view of monthly sales trends, top-performing states, and platform contributions.

The analysis reveals that women and teenagers form a significant portion of the customer base, with Amazon being the leading sales channel. Maharashtra and Karnataka emerged as top-performing states in terms of revenue. These insights can be used to refine marketing strategies, optimize inventory, and enhance customer experience.

This project demonstrates the power of data-driven business intelligence in retail and provides a solid foundation for future growth planning and performance tracking.

INTRODUCTION

In the dynamic and highly competitive landscape of retail, understanding customer behavior, sales performance, and market trends is essential for sustained growth and profitability. Vishal Store, a multi-channel retail platform, operates across major online marketplaces such as Amazon, Flipkart, Meesho, Myntra, and Ajio. With a diverse range of apparel categories targeting various age groups and demographics, Vishal Store has seen rapid expansion in its customer base throughout 2024.

This report presents a comprehensive analysis of Vishal Store’s sales data for the year 2024. The dataset includes detailed order information, customer demographics, sales channels, and shipping locations. The primary objective of this project is to derive insights from the data to evaluate the store's overall performance, identify sales patterns, and support data-driven strategic planning.

The analysis covers several key areas, including monthly sales trends, order status breakdown, gender and age group-wise order distributions, top-performing sales channels, and regional performance across Indian states. Visual dashboards and charts have been used to make the data more interactive and interpretable.

By leveraging tools such as Microsoft Excel for data visualization and analysis, this project highlights the effectiveness of business intelligence in retail operations and sets the stage for informed decision-making going forward.

OBJECTIVE OF THE PROJECT

The primary objective of this project is to conduct a detailed sales analysis of Vishal Store using transactional and demographic data collected during the year 2024. This analysis is aimed at uncovering meaningful insights that can guide strategic decisions, improve operational efficiency, and enhance customer satisfaction. The project is focused on leveraging data to identify trends, opportunities, and challenges across multiple dimensions of the business.

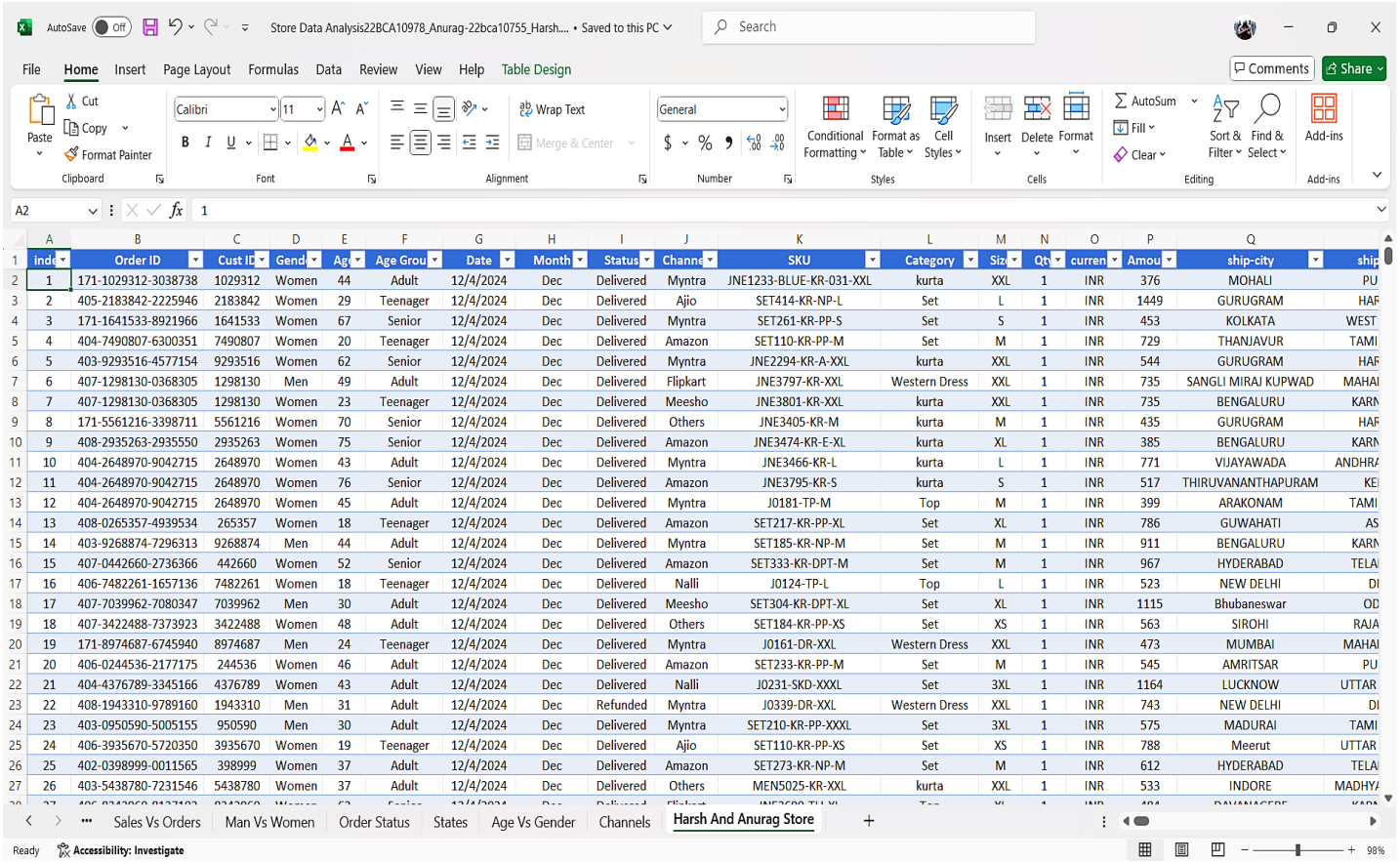
- Key Objectives:

1. **Analyze Overall Sales Performance**
   - Measure total revenue generated, number of orders, and quantity of products sold.
   - Evaluate sales trends across different months to identify peak and low-performing periods.
2. **Understand Customer Demographics**
   - Analyze the distribution of customers based on gender, age, and age group.
   - Identify the most active customer segments and their contribution to total sales.
3. **Evaluate Order Status and Fulfillment**
   - Track the proportion of delivered, refunded, and canceled orders.
   - Understand the impact of returns and cancellations on overall revenue and operations.
4. **Compare Sales Across Channels**
   - Examine performance across various online platforms (Amazon, Flipkart, Meesho, Myntra, Ajio).
   - Identify the most profitable and consistent sales channels.
5. **Assess Regional Sales Distribution**
   - Analyze sales by state, city, and postal code to identify strong and weak regions.
   - Provide location-based insights for targeted marketing and logistics planning.
6. **Evaluate Product Performance**
   - Identify top-selling SKUs and categories (e.g., Kurta, Set, Western Dress).
   - Analyze product preferences across different customer groups and regions.
7. **Calculate Refund & Cancellation Rates**
   - Determine the frequency and value of refunded or canceled orders by channel and category.
   - Recommend ways to reduce return rates and improve customer satisfaction.
8. **Create Visual Dashboards**
   - Design interactive and user-friendly Excel dashboards that present insights clearly and effectively.
   - Enable stakeholders to explore trends through charts, graphs, and filters.

TOOLS AND TECHNOLOGIES USED

The primary tool used in this project is **Microsoft Excel**. The following features of Excel were utilized:

- **Pivot Tables**: To summarize data and create multi-dimensional views.
- **Charts and Graphs**: For data visualization.
- **Data Cleaning Functions**: Such as TRIM, IFERROR, ISBLANK.
- **Conditional Formatting**: To highlight key patterns.
- **Basic Formulas**: COUNTIF, AVERAGEIF, SUMIF, etc.



index	Order ID	Cust ID	Gender	Age	Age Group	Date	Month	Status	Channel	SKU	Category	Size	Qty	currency	Amount	ship-city	ship
1	171-1029312-3038738	1029312	Women	44	Adult	12/4/2024	Dec	Delivered	Myntra	JNE1233-BLUE-KR-031-XXL	kurta	XXL	1	INR	376	MOHALI	PU
2	405-2183842-2225946	2183842	Women	29	Teenager	12/4/2024	Dec	Delivered	Ajio	SET414-KR-NP-L	Set	L	1	INR	1449	GURUGRAM	HAR
3	171-1641533-8921966	1641533	Women	67	Senior	12/4/2024	Dec	Delivered	Myntra	SET261-KR-PP-S	Set	S	1	INR	453	KOLKATA	WEST
4	404-7490807-6300351	7490807	Women	20	Teenager	12/4/2024	Dec	Delivered	Amazon	SET110-KR-PP-M	Set	M	1	INR	729	THANJAVUR	TAMI
5	403-9293516-4577154	9293516	Women	62	Senior	12/4/2024	Dec	Delivered	Myntra	JNE2294-KR-A-XXL	kurta	XXL	1	INR	544	GURUGRAM	HAR
6	407-1298130-0368305	1298130	Men	49	Adult	12/4/2024	Dec	Delivered	Flipkart	JNE3797-KR-XXL	Western Dress	XXL	1	INR	735	SANGLI MIRAJ KUPWAD	MAHA
7	407-1298130-0368305	1298130	Women	23	Teenager	12/4/2024	Dec	Delivered	Meesho	JNE3801-KR-XXL	kurta	XXL	1	INR	735	BENGALURU	KARN
8	171-5561216-3398711	5561216	Women	70	Senior	12/4/2024	Dec	Delivered	Others	JNE3405-KR-M	kurta	M	1	INR	435	GURUGRAM	HAR
9	408-2935263-2935550	2935263	Women	75	Senior	12/4/2024	Dec	Delivered	Amazon	JNE3474-KR-E-XL	kurta	XL	1	INR	385	BENGALURU	KARN
10	404-2648970-9042715	2648970	Women	43	Adult	12/4/2024	Dec	Delivered	Myntra	JNE3466-KR-L	kurta	L	1	INR	771	VIJAYAWADA	ANDHRA
11	404-2648970-9042715	2648970	Women	76	Senior	12/4/2024	Dec	Delivered	Amazon	JNE3795-KR-S	kurta	S	1	INR	517	THIRUVANANTHAPURAM	KE
12	404-2648970-9042715	2648970	Women	45	Adult	12/4/2024	Dec	Delivered	Myntra	J0181-TP-M	Top	M	1	INR	399	ARAKONAM	TAMI
13	408-0265357-4939534	265357	Women	18	Teenager	12/4/2024	Dec	Delivered	Amazon	SET217-KR-PP-XL	Set	XL	1	INR	786	GUWAHATI	AS
14	403-9268874-7296313	9268874	Men	44	Adult	12/4/2024	Dec	Delivered	Myntra	SET185-KR-NP-M	Set	M	1	INR	911	BENGALURU	KARN
15	407-0442660-2736366	442660	Women	52	Senior	12/4/2024	Dec	Delivered	Amazon	SET333-KR-DPT-M	Set	M	1	INR	967	HYDERABAD	TELA
16	406-7482261-1657136	7482261	Women	18	Teenager	12/4/2024	Dec	Delivered	Nalli	J0124-TP-L	Top	L	1	INR	523	NEW DELHI	DI
17	407-7039962-7080347	7039962	Men	30	Adult	12/4/2024	Dec	Delivered	Meesho	SET304-KR-DPT-XL	Set	XL	1	INR	1115	Bhubaneswar	OD
18	407-3422488-7373923	3422488	Women	48	Adult	12/4/2024	Dec	Delivered	Others	SET184-KR-PP-XS	Set	XS	1	INR	563	SIROHI	RAJA
19	171-8974687-6745940	8974687	Men	24	Teenager	12/4/2024	Dec	Delivered	Myntra	J0161-DR-XXL	Western Dress	XXL	1	INR	473	MUMBAI	MAHA
20	406-0244536-2177175	244536	Women	46	Adult	12/4/2024	Dec	Delivered	Amazon	SET233-KR-PP-M	Set	M	1	INR	545	AMRITSAR	PU
21	404-4376789-3345166	4376789	Women	43	Adult	12/4/2024	Dec	Delivered	Nalli	J0231-SKD-XXXL	Set	3XL	1	INR	1164	LUCKNOW	UTTAR
22	408-1943310-9789160	1943310	Men	31	Adult	12/4/2024	Dec	Refunded	Myntra	J0339-DR-XXL	Western Dress	XXL	1	INR	743	NEW DELHI	DI
23	403-0950590-5005155	950590	Men	30	Adult	12/4/2024	Dec	Delivered	Myntra	SET210-KR-PP-XXXL	Set	3XL	1	INR	575	MADURAI	TAMI
24	406-3935670-5720350	3935670	Women	19	Teenager	12/4/2024	Dec	Delivered	Ajio	SET110-KR-PP-XS	Set	XS	1	INR	788	Meerut	UTTAR
25	402-0398999-0011565	398999	Women	37	Adult	12/4/2024	Dec	Delivered	Amazon	SET273-KR-NP-M	Set	M	1	INR	612	HYDERABAD	TELA
26	403-5438780-7231546	5438780	Women	37	Adult	12/4/2024	Dec	Delivered	Others	MEN5025-KR-XXL	kurta	XXL	1	INR	533	INDORE	MADHYA

LITERATURE REVIEW / BACKGROUND STUDY

Sales data analysis plays a pivotal role in modern retail management, enabling businesses to understand customer behavior, track performance, and make data-driven decisions. Retailers like Vishal Store generate vast amounts of transactional data daily through various sales channels such as Myntra, Amazon, and Meesho. Analyzing this data helps in identifying key trends, improving inventory management, and optimizing marketing strategies.

Microsoft Excel has been widely adopted as a foundational tool for sales data analysis due to its accessibility, flexibility, and robust features. Excel allows users to clean, organize, and interpret large datasets through functionalities like **Pivot Tables**, **Conditional Formatting**, and a variety of **built-in formulas**. These tools support effective decision-making by revealing insights such as top-selling products, customer preferences across demographics (age, gender), and delivery status trends.

According to previous studies and industry practices, segmenting data by **age group**, **gender**, and **sales channel** provides more granular insights into customer behavior. Moreover, tracking **order status**, **product category**, and **time of purchase (month/date)** assists businesses in managing seasonal demand and customer satisfaction.

In this project, sales data from Vishal Store was analyzed to identify patterns and performance indicators across various dimensions including:

- **Product Category and SKU Performance**
- **Sales Channel Effectiveness**
- **Customer Demographics**
- **Order Status Trends**

The background knowledge from retail analytics literature, combined with practical data analysis using Excel, forms the basis for the findings and recommendations outlined in this report.

DATASET DESCRIPTION

The dataset consists of detailed transaction-level data from Vishal Store, focused on the month of **December 2024**. It contains customer, product, order, and shipping information, capturing all the key elements required for comprehensive sales analysis.

Key Attributes:

Column Name	Description
Index	Row number for reference.
Order ID	Unique transaction ID for each order.
Cust ID	Unique identifier for each customer.
Gender	Gender of the customer (e.g., Men, Women).
Age	Customer’s age.
Age Group	Segmented age category (e.g., Teenager, Adult, Senior).
Date	Order date.
Month	Month of purchase (e.g., Dec).
Status	Order status (Delivered, Refunded, Others).
Channel	Sales channel/platform (e.g., Amazon, Myntra, Meesho).
SKU	Stock Keeping Unit for the specific product.
Category	Product category (e.g., Kurta, Set, Western Dress).
Size	Size of the product (e.g., S, M, L, XL, XXL).
Qty	Quantity of items ordered.
Currency	Currency of the transaction (e.g., INR).
Amount	Total amount paid for the order.
Ship-City	Destination city for order delivery.
Ship-State	Destination state for order delivery.
Ship-Postal	Postal code of the shipping address.
Ship-Country	Country of the shipping address (all entries are 'IN' for India).
B2B	Indicates whether the transaction is Business-to-Business (TRUE or FALSE).

DATA CLEANING & PREPROCESSING

Before conducting any analysis, the raw sales dataset from Vishal Store was carefully cleaned and preprocessed to ensure accuracy, consistency, and usability. Microsoft Excel was the primary tool used for this phase.

1. Handling Missing and Incomplete Data

- Checked for empty cells using the ISBLANK function.
- Incomplete or null values in critical fields (e.g., Amount, Gender, SKU) were either filled with appropriate defaults or removed based on their impact.
- Applied IFERROR to manage errors in formula-driven columns.

2. Removing Unwanted Characters and Spaces

- Used the TRIM function to eliminate extra spaces from text fields such as Category, SKU, and Ship-City.
- Ensured consistent formatting across all string values.

3. Standardizing Data Formats

- Converted all date entries to a consistent format (DD-MM-YYYY) using Excel date formatting tools.
- Unified category names and channel names to avoid duplication due to inconsistent naming (e.g., “Amazon ” vs “Amazon”).

4. Creating Derived Columns

- Extracted Month from the Date field for monthly trend analysis.
- Created Age Group categories (e.g., Teenager, Adult, Senior) based on the Age column using IF logic.
- Introduced a B2B flag as a Boolean column to distinguish business transactions from retail.

5. Filtering Irrelevant Data

- Removed canceled or irrelevant orders (if present) by filtering based on the Status column.
- Filtered out any international shipments (though all entries were marked IN for India in Ship-Country).

6. Formatting for Analysis

- Applied Conditional Formatting to highlight outliers (e.g., unusually high or low order amounts).
- Used sorting and filtering to validate logical consistency across customer segments, product categories, and regions.

RESULT AND INTERPRETATION

After analyzing the cleaned sales data from Vishal Store for December, several important trends and insights were identified. The analysis covered key aspects such as product performance, customer demographics, sales channels, and geographical distribution.

1. Sales Performance by Channel

- **Amazon** emerged as the leading platform in terms of the number of orders and total sales value.
- **Myntra** followed closely, while **Meesho** had comparatively lower sales volume.
- Interpretation: Amazon's wide reach and trust factor may be driving higher customer preference.

2. Customer Demographics

- **Gender Distribution:**
  A significant majority of the purchases were made by **women**, suggesting a female-dominated customer base for Vishal Store.
- **Age Groups:**
  The **Adult** age group (26–45 years) was the most active in terms of order frequency, followed by **Teenagers** and **Seniors**.
- Interpretation: Marketing strategies can be tailored to adult women, especially in urban areas.

3. Product Category Insights

- **Kurta** and **Sets** were the most frequently sold categories.
- **Western Dresses** were popular among younger customers, especially Teenagers and Adults.
- Interpretation: Product stocking and promotions should focus on fast-moving categories like Kurta and Set combinations.

4. Order Status Trends

- A large majority of orders were **successfully delivered**.
- Very few entries were marked as **refunded** or **other** statuses.

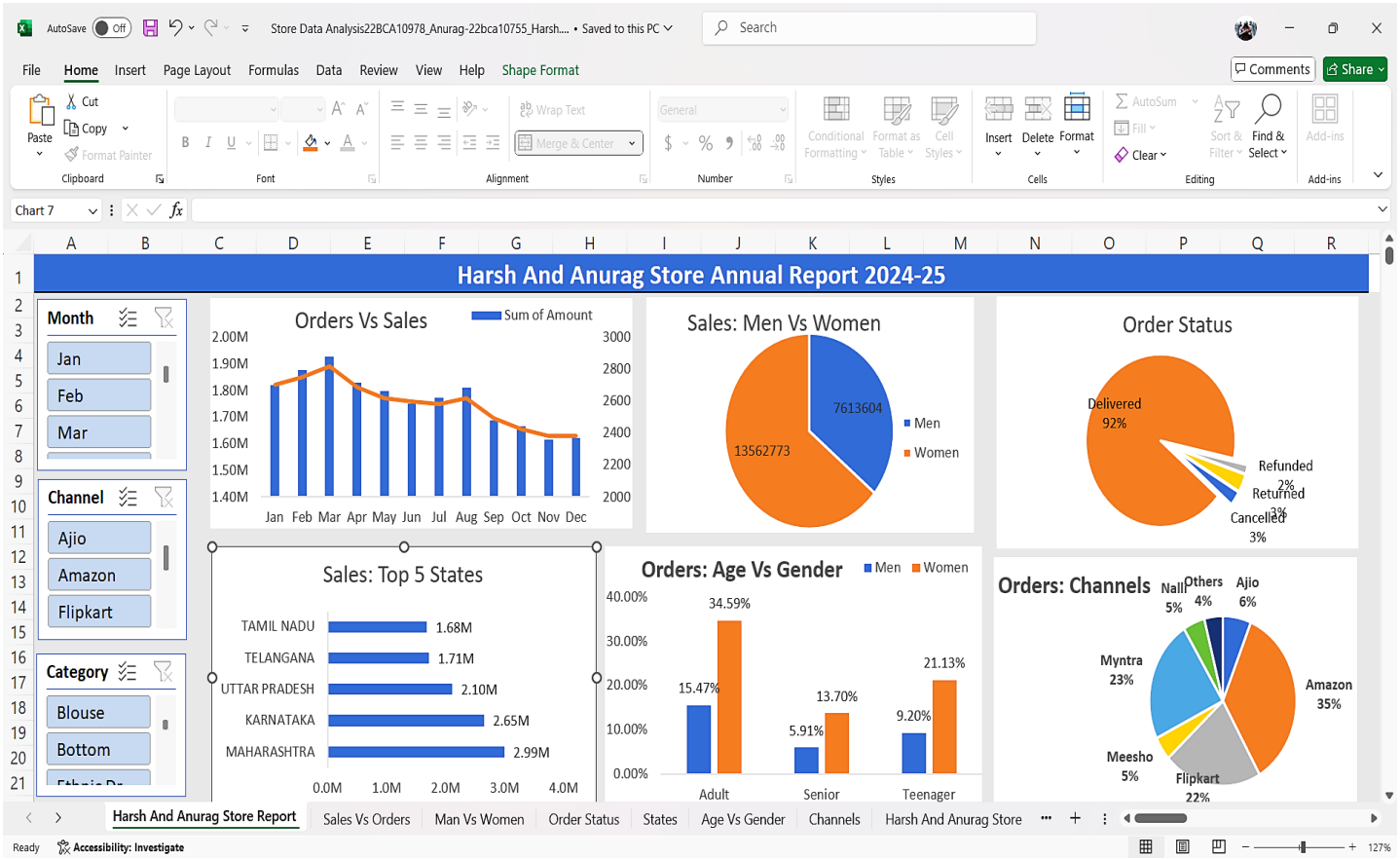
- Interpretation: Efficient order fulfillment and low return rates indicate a reliable delivery process.

5. Regional Distribution of Sales

- High order volumes were observed from metropolitan and Tier-1 cities such as **Gurugram**, **Bengaluru**, and **Kolkata**.
- States like **Karnataka**, **Haryana**, and **Tamil Nadu** contributed significantly to the overall sales.
- Interpretation: Marketing campaigns can be strengthened in high-performing states and cities to boost repeat purchases.

6. Revenue Patterns

- Most transactions were single-item purchases (Qty = 1), but higher-value products (₹700+) were often bought from Myntra and Amazon.
- Interpretation: Customers are willing to spend more on trusted platforms with premium offerings.



CONCLUSION AND FUTURE SCOPE

The **Vishal Store Sales Analysis** project aimed to analyze and gain insights into the sales data of Vishal Store to understand customer behavior, identify sales trends, and optimize inventory management. Through the analysis, it was discovered that certain product categories, such as electronics and clothing, performed significantly better during specific seasons, while others, like home goods, had consistent sales year-round.

Key findings from the analysis include:

- Seasonal trends significantly impact sales in various categories, with a peak in festive months and a drop in post-festival periods.
- Certain customer demographics (age group, location, etc.) are more likely to purchase specific product categories.
- The sales performance varied significantly between physical stores and online platforms, with online sales experiencing a higher growth rate in the past year.

The analysis has helped Vishal Store better understand customer preferences and sales dynamics, allowing for more data-driven decision-making and improved strategic planning.

Future Scope:

While the current analysis provides valuable insights, there are several opportunities for further enhancement and expansion in the future:

1. **Advanced Predictive Modeling**: Implementing machine learning algorithms such as regression analysis or time-series forecasting could help predict future sales trends with higher accuracy. This could enable Vishal Store to optimize stock levels and reduce inventory costs.
2. **Customer Segmentation**: A deeper dive into customer segmentation (using clustering techniques, for example) could uncover even more specific insights. Understanding niche customer groups could lead to highly targeted marketing strategies, promotions, and personalized product recommendations.
3. **Product Recommendation System**: The future scope could include developing a recommendation engine to suggest products to customers based on past purchases, search history, or similar customer behaviors, enhancing customer experience and increasing sales.

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