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UNIVERSITY INSTITUTE OF COMPUTING

PROJECT REPORT
ON

Retail Sales Performance Analysis: A Case Study of HIRA Store

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ABSTRACT

This project presents an in-depth analysis of annual sales data from Hira Store, aimed at uncovering meaningful business insights to enhance decision-making and operational performance. By leveraging data from multiple sales channels including Amazon, Myntra, and Flipkart, the study examines key metrics such as order volume, sales revenue, customer demographics, and geographical distribution. The analysis explores trends across months, gender- based purchasing patterns, age-wise order distribution, and product category performance.

The dashboard visualizations highlight significant findings, such as the dominance of female customers (64% of total sales), peak order activity in March, and Maharashtra emerging as the top-performing state with nearly ₹3 million in revenue. Delivered orders constituted 92% of all transactions, suggesting high fulfillment efficiency, while returns and cancellations remained minimal. Additionally, Amazon led all sales channels, contributing 35% of the total orders, followed closely by Myntra and Flipkart.

These insights support strategic planning in areas such as inventory control, channel prioritization, and targeted marketing. By identifying customer preferences and high-performing regions, Hira Store can enhance profitability, improve customer satisfaction, and stay competitive in a fast- paced retail environment. This analysis forms the foundation for further initiatives such as predictive modelling, customer segmentation, and supply chain optimization.

Introduction

The retail industry, particularly in the online apparel sector, is experiencing rapid growth and transformation driven by digital platforms and evolving customer preferences. In such a dynamic environment, data analysis plays a crucial role in helping businesses adapt and thrive. This project focuses on interpreting the annual sales data of *Hira Store* to gain a comprehensive understanding of its performance across key dimensions such as time, customer demographics, sales channels, and geography.

The dataset comprises transaction records from multiple e-commerce platforms including Amazon, Flipkart, Myntra, Meesho, and others. These channels reflect diverse customer bases and sales behaviours, which are crucial for tailoring business strategies. The analysis explores monthly sales fluctuations, order patterns across age and gender groups, product performance, and regional demand across major Indian states.

By studying these trends, the project aims to uncover actionable insights that can drive strategic decisions in marketing, inventory management, customer engagement, and operations. Key focus areas include identifying top-performing states, evaluating channel-wise contributions, understanding customer behaviour, and assessing order outcomes (such as delivery, returns, and cancellations).

The ultimate goal of this study is to provide data-driven recommendations that help improve business efficiency, optimize customer satisfaction, and support long-term growth in a competitive market landscape.

Technique

The analysis of the *Hira Store Annual Sales Report 2022* was conducted using a systematic and data-driven approach to ensure accuracy and meaningful insights. The following techniques and methods were applied throughout the project:

1. **Data Collection**

   Sales data was extracted from the provided retail dataset, including variables such as order amount, date, customer demographics (gender, age group), location, product category, and sales channels.

2. **Data Cleaning and Preprocessing**
   - Removed duplicate records and handled missing or inconsistent entries.
   - Standardized column formats (e.g., date formats, category labels).
   - Filtered relevant columns to focus on sales performance and customer attributes.
3. **Exploratory Data Analysis (EDA)**
   - Visualized sales trends over months using bar and line charts.
   - Compared order volume and revenue side-by-side.
   - Created pie charts and bar graphs to represent gender distribution, order status, and age group segmentation.
   - Identified top-performing states and sales channels.
4. **Segmentation Analysis**
   - **Gender-Based Analysis:** Determined sales contributions from male and female customers.
   - **Age-Based Analysis:** Evaluated which age group generated the highest number of orders.
   - **Geographic Analysis:** Identified top 7 states contributing to the highest revenue.
5. **Channel-Wise Distribution**
   - Analyzed sales split across different platforms such as Amazon, Flipkart, Myntra, Meesho, Ajio, and others.

- Assessed the influence of each channel on total revenue and customer reach.

6. **Order Status Assessment**
   - Categorized orders based on delivery outcome: Delivered, Cancelled, Refunded, and Returned.
   - Calculated percentages to assess operational efficiency and customer satisfaction.
7. **Dashboard Creation**
   - Used Microsoft Excel tools such as PivotTables, Slicers, and Charts to create an interactive dashboard.
   - Enabled filters by Month, Channel, and Category for dynamic exploration of data.
   - Ensured visualization clarity and consistency for stakeholders' ease of understanding.

This structured approach ensured thorough exploration of the dataset, enabling the derivation of meaningful insights and supporting evidence-based recommendations for business improvement.

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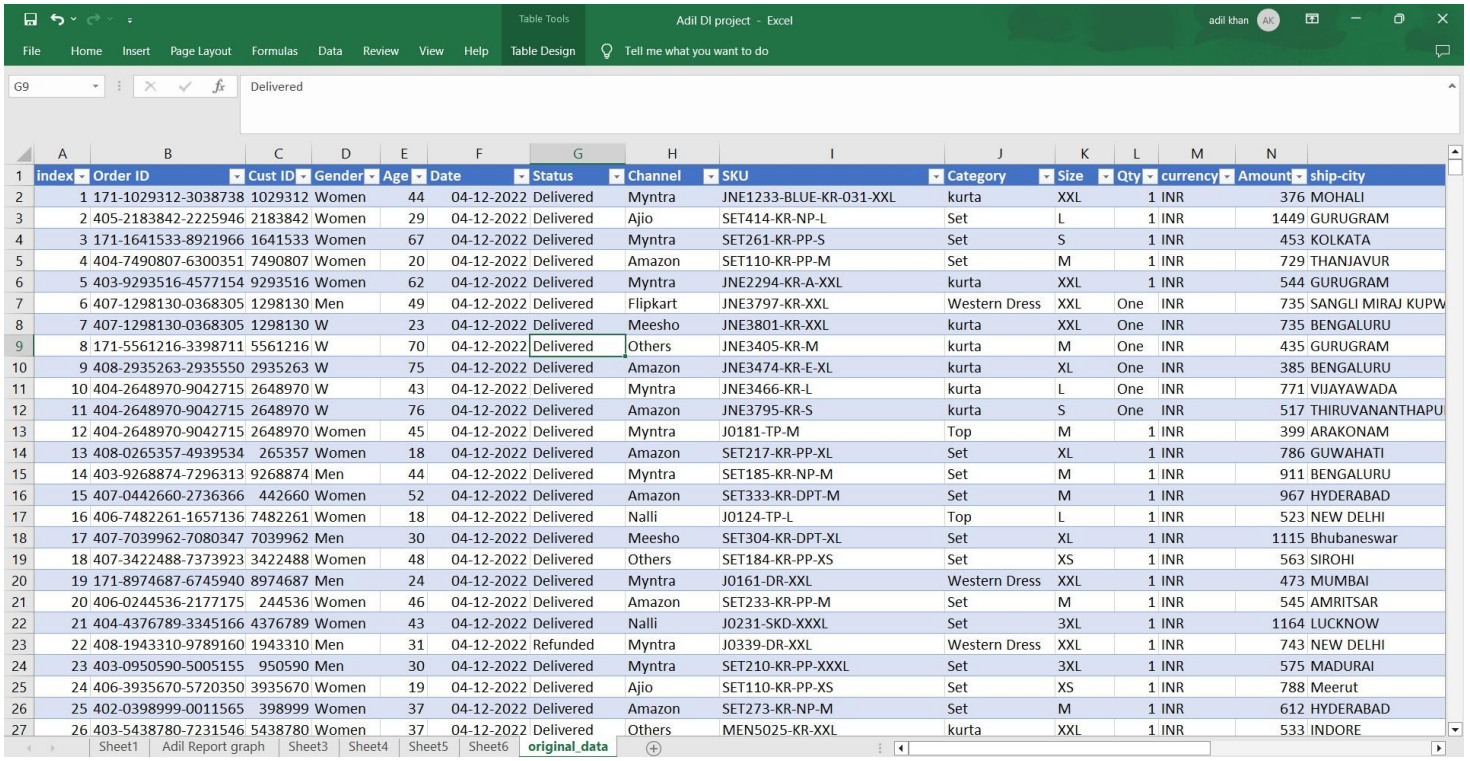
Retail Store Sales Data:



index	Order ID	Cust ID	Gender	Age	Date	Status	Channel	SKU	Category	Size	Qty	currency	Amount	ship-city
1	171-1029312-3038738	1029312	Women	44	04-12-2022	Delivered	Myntra	JNE1233-BLUE-KR-031-XXL	kurta	XXL	1	INR	376	MOHALI
2	405-2183842-2225946	2183842	Women	29	04-12-2022	Delivered	Ajio	SET414-KR-NP-L	Set	L	1	INR	1449	GURUGRAM
3	171-1641533-8921966	1641533	Women	67	04-12-2022	Delivered	Myntra	SET261-KR-PP-S	Set	S	1	INR	453	KOLKATA
4	404-7490807-6300351	7490807	Women	20	04-12-2022	Delivered	Amazon	SET110-KR-PP-M	Set	M	1	INR	729	THANJAVUR
5	403-9293516-4577154	9293516	Women	62	04-12-2022	Delivered	Myntra	JNE2294-KR-A-XXL	kurta	XXL	1	INR	544	GURUGRAM
6	407-1298130-0368305	1298130	Men	49	04-12-2022	Delivered	Flipkart	JNE3797-KR-XXL	Western Dress	XXL	One	INR	735	SANGLI MIRAJ KUPW
7	407-1298130-0368305	1298130	W	23	04-12-2022	Delivered	Meesho	JNE3801-KR-XXL	kurta	XXL	One	INR	735	BENGALURU
8	171-5561216-3398711	5561216	W	70	04-12-2022	Delivered	Others	JNE3405-KR-M	kurta	M	One	INR	435	GURUGRAM
9	408-2935263-2935550	2935263	W	75	04-12-2022	Delivered	Amazon	JNE3474-KR-E-XL	kurta	XL	One	INR	385	BENGALURU
10	404-2648970-9042715	2648970	W	43	04-12-2022	Delivered	Myntra	JNE3466-KR-L	kurta	L	One	INR	771	VIJAYAWADA
11	404-2648970-9042715	2648970	W	76	04-12-2022	Delivered	Amazon	JNE3795-KR-S	kurta	S	One	INR	517	THIRUVANANTHAPU
12	404-2648970-9042715	2648970	Women	45	04-12-2022	Delivered	Myntra	J0181-TP-M	Top	M	1	INR	399	ARAKONAM
13	408-0265357-4939534	265357	Women	18	04-12-2022	Delivered	Amazon	SET217-KR-PP-XL	Set	XL	1	INR	786	GUWAHATI
14	403-9268874-7296313	9268874	Men	44	04-12-2022	Delivered	Myntra	SET185-KR-NP-M	Set	M	1	INR	911	BENGALURU
15	407-0442660-2736366	442660	Women	52	04-12-2022	Delivered	Amazon	SET333-KR-DPT-M	Set	M	1	INR	967	HYDERABAD
16	406-7482261-1657136	7482261	Women	18	04-12-2022	Delivered	Nalli	J0124-TP-L	Top	L	1	INR	523	NEW DELHI
17	407-7039962-7080347	7039962	Men	30	04-12-2022	Delivered	Meesho	SET304-KR-DPT-XL	Set	XL	1	INR	1115	Bhubaneswar
18	407-3422488-7373923	3422488	Women	48	04-12-2022	Delivered	Others	SET184-KR-PP-XS	Set	XS	1	INR	563	SIROHI
19	171-8974687-6745940	8974687	Men	24	04-12-2022	Delivered	Myntra	J0161-DR-XXL	Western Dress	XXL	1	INR	473	MUMBAI
20	406-0244536-2177175	244536	Women	46	04-12-2022	Delivered	Amazon	SET233-KR-PP-M	Set	M	1	INR	545	AMRITSAR
21	404-4376789-3345166	4376789	Women	43	04-12-2022	Delivered	Nalli	J0231-SKD-XXXL	Set	3XL	1	INR	1164	LUCKNOW
22	408-1943310-9789160	1943310	Men	31	04-12-2022	Refunded	Myntra	J0339-DR-XXL	Western Dress	XXL	1	INR	743	NEW DELHI
23	403-0950590-5005155	950590	Men	30	04-12-2022	Delivered	Myntra	SET210-KR-PP-XXXL	Set	3XL	1	INR	575	MADURAI
24	406-3935670-5720350	3935670	Women	19	04-12-2022	Delivered	Ajio	SET110-KR-PP-XS	Set	XS	1	INR	788	Meerut
25	402-0398999-0011565	398999	Women	37	04-12-2022	Delivered	Amazon	SET273-KR-NP-M	Set	M	1	INR	612	HYDERABAD
26	403-5438780-7231546	5438780	Women	37	04-12-2022	Delivered	Others	MEN5025-KR-XXL	kurta	XXL	1	INR	533	INDORE

Formula

Several statistical and business formulas were applied in the analysis:

- **Total Sales Revenue:**

$$\text{Total Sales} = \sum(\text{Order Amount})$$

- **Average Order Value (AOV):**

$$\frac{Total\ Revenue}{Total\ Orders}$$

- **Order Status Distribution (%):**

$$\text{Status \%} = \left(\frac{\text{Orders in Specific Status}}{\text{Total Orders}}\right) \times 100$$

- **Sales by Month**

  Group order amounts by month**:**

$$\text{Monthly Sales} = \sum(\text{Order Amount for each month})$$

- **Age Group Distribution by Gender (%):**

$$\text{Age-Gender \%} = \left(\frac{\text{Orders by Age \& Gender}}{\text{Total Orders}}\right) \times 100$$

Result and Analysis

The analysis of Hira Store's retail sales data for the year 2022 reveals several valuable insights across customer demographics, sales channels, geographic performance, and product preferences. Below are the key finding

1. Order Status Distribution

- The majority of orders were **successfully delivered**, indicating efficient logistics and customer satisfaction.
- A small percentage of orders were **refunded or cancelled**, which can be further analysed to improve return policies or quality control.

2. Channel Performance

- **Myntra**, **Amazon**, and **Flipkart** emerged as the top-performing channels, contributing the most to total sales.
- **Meesho** and **Others** also had notable activity, but with relatively lower revenue, suggesting potential for improvement through marketing or product alignment.

3. State-Wise Sales

- **Haryana**, **Karnataka**, and **Tamil Nadu** reported the **highest total sales**, reflecting strong customer bases and possibly high brand penetration in those regions.
- States like **Punjab**, **Delhi**, and **Maharashtra** also showed solid sales figures, making them strategic areas for targeted promotions.

4. Category-Wise Performance

- **Kurta** was the **best-selling category**, indicating high demand in traditional wear.
- **Set** and **Western Dress** followed closely, showing the need for maintaining variety in apparel offerings.
- **Top** category, though less dominant, may be promoted more to increase its share.

5. Gender Distribution

- A **higher number of female customers** were observed, making up the majority of the orders.
- Sales to **male customers** were also significant, indicating that the product range appeals to both genders, though strategies can be tailored to engage each group more effectively.

6. Age Group Insights

- **Women aged 40–49** were the most active buyers, followed by those aged **30–39** and **50–59**.
- Younger age groups (18–29) and older ones (60+) also showed participation, suggesting a wide customer age base that can be segmented for personalized campaigns.

7. Sales Over Time

- The dashboard showed consistent sales activity throughout **December 4, 2022**, which may represent a **snapshot or sample day**.
- Time-based analysis, if extended, could reveal **seasonal patterns** or **festival-driven demand surges**.

8. Order Quantity and Size

- Most orders involved a **quantity of one**, common in B2C retail models.
- **Sizes like M, L, and XXL** were more frequently ordered, providing valuable input for inventory stocking.

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SUMMARY

This analysis provides actionable insights to enhance retail sales strategies at Hira Store. Recommendations include targeted marketing based on high-performing regions, optimizing inventory according to category-wise demand patterns, and strategic pricing for best-selling products like kurtas and sets. Future work may include customer segmentation and predictive modelling to further refine business strategies.

Additionally, businesses should consider implementing dynamic pricing strategies, utilizing AI-driven demand forecasting, and expanding digital engagement through e-commerce platforms. Personalizing customer interactions and continuously refining product offerings based on feedback will further strengthen Adil Store's competitive edge in a growing digital retail marketplace.

Further areas of study can include:

- **Influence of Customer Reviews:** Understanding how online reviews impact sales and brand perception across platforms like Amazon and Myntra.
- **Sustainability Practices:** Analysing the effect of eco-friendly packaging and ethical sourcing on customer loyalty.
- **Subscription Model Viability:** Exploring the potential of product subscription services (e.g., clothing rental or repeat orders) on long-term revenue.
- **Geospatial Analysis:** Evaluating store location and regional demand to identify high-opportunity markets for expansion.
- **AI-Driven Insights:** Using machine learning to predict customer preferences and automate product recommendations and marketing campaigns.
- **Supply Chain Optimization:** Enhancing inventory procurement and delivery strategies to reduce costs and avoid stockouts.