

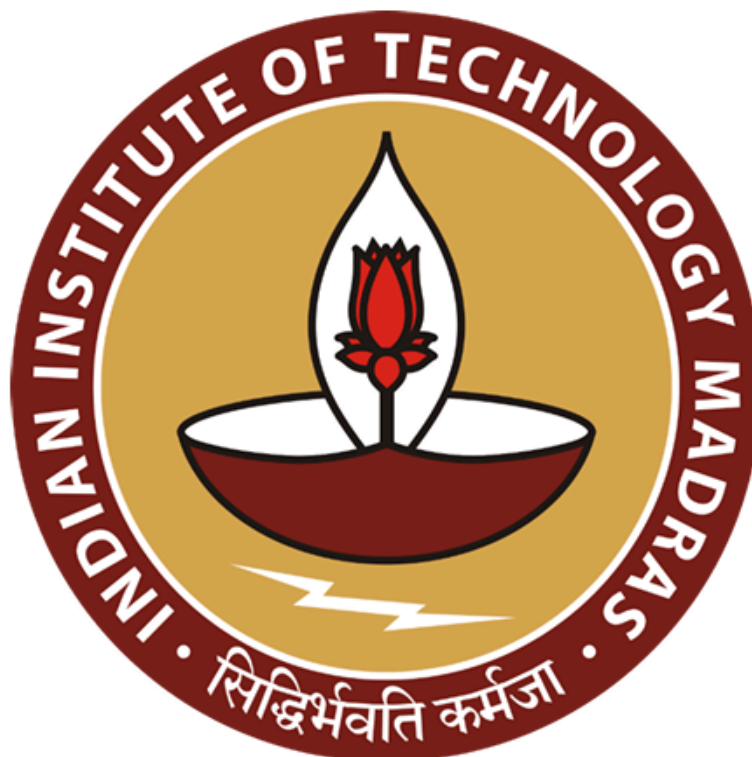
# **Refining Product Data and Pricing for an Enhanced Customer Experience in Online Fashion Retail**

## **A Proposal report for the BDM capstone Project**

**Submitted by**

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## **Declaration Statement**

I am working on a Project Title “**Refining Product Data and Pricing for an Enhanced Customer Experience in Online Fashion Retail**”. I extend my appreciation to **Kaggle Platform** for providing the necessary resources that enabled me to conduct my project.

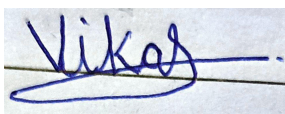
I hereby assert that the data presented and assessed in this project report is genuine and precise to the utmost extent of my knowledge and capabilities. The data has been gathered through primary sources and carefully analyzed to assure its reliability.

Additionally, I affirm that all procedures employed for the purpose of data collection and analysis have been duly explained in this report. The outcomes and inferences derived from the data are an accurate depiction of the findings acquired through thorough analytical procedures.

I am dedicated to adhering to the information of academic honesty and integrity, and I am receptive to any additional examination or validation of the data contained in this project report.

I understand that the execution of this project is intended for individual completion and is not to be undertaken collectively. I thus affirm that I am not engaged in any form of collaboration with other individuals, and that all the work undertaken has been solely conducted by me. In the event that plagiarism is detected in the report at any stage of the project's completion, I am fully aware and prepared to accept disciplinary measures imposed by the relevant authority.

I agree that all the recommendations are business-specific and limited to this project exclusively, and cannot be utilized for any other purpose with an IIT Madras tag. I understand that IIT Madras does not endorse this.

A handwritten signature in blue ink, appearing to read 'Vikas', is written over a horizontal line.

Signature of Candidate: (Digital Signature)

Name: Vikas Rathore

Date: 11th June, 2025

## 1. Executive Summary

AJIO is one of India's biggest online fashion stores, run by Reliance Retail, and it's all about making trendy clothes, shoes, and accessories easy to get for everyone—men, women, and kids. What makes AJIO special is how it mixes well-known international brands with its own collections and unique designer picks, so shoppers always have something new to choose from. The platform mainly sells directly to customers, which is called B2C, but it also works with lots of brands and sellers behind the scenes to make sure there's always a good mix of options.

Even with all this success, AJIO still runs into some real problems. Sometimes, the details about products—like the brand or color—aren't always clear or consistent. This can confuse customers and make it hard for AJIO's search and recommendations to work correctly, which means people might not find what they want or even leave without buying anything. Prices and discounts can also be a bit unpredictable, with some items getting big markdowns while others staying almost full price. This makes it tricky for AJIO to get the most out of its sales. Plus, there's often more choice and better deals for women compared to men, which can make some shoppers feel left out and hold back growth.

To help fix these issues, I started with a huge dataset from Kaggle that was pulled straight from AJIO's website. This data has everything from brand and color info to prices and who each product is meant for. My job was to clean up the data, sort products by price and gender, and use statistics to spot patterns and suggest ways to make things fairer and easier for everyone. The whole point is to make AJIO's platform more reliable and enjoyable, so customers have a better shopping experience and the business can keep growing in a crowded market.

## 2. Organization Background

AJIO is an online fashion store owned by Reliance Retail, launched in 2016 and based in Bengaluru. When I shop there, I love how it mixes famous international brands, unique designer collections, and its own Ajio label, making it easy for everyone to find something they like—whether it's for men, women, or kids. The platform is known for its stylish picks and great deals, reaching millions of customers across India and going up against big names like Myntra, Amazon, and Flipkart. What makes shopping on AJIO special is how it connects online and offline stores, so you can order from home or visit in person—whichever feels right for you.

But running a store this big isn't always smooth. I've noticed that sometimes, product details like brand names or colors are messy or incomplete, which can make it hard for customers to find exactly what they want. Prices and discounts can also be confusing, with some products getting big markdowns while others don't, and there are often more options and deals for women than for men. These issues really matter because they affect how people feel about shopping on AJIO.

That's why, for this project, I want to dig into these challenges and find ways to make things better for customers and improve its services. By looking closely at the data, I hope to come up with clear, practical solutions—like fixing product details and balancing discounts—that make shopping easier and more enjoyable for everyone.

### 3. Problem Statement

- **Improving product data quality for a better customer experience**

When brand names or colors are messy or inconsistent, shoppers struggle to find what they want. Fixing these issues makes AJIO's search and recommendations work better, so customers can trust they'll always find the right product.

- **Optimizing pricing and discount strategies to boost sales and profits**

Unpredictable prices and discounts can confuse shoppers and hurt sales. By looking closely at how prices are set and fixing unfair deals, AJIO can make sure every offer is clear and attractive.

- **Balancing product and discount offerings for men and women**

Making sure there are enough products and fair discounts for both men and women, so that everyone has a good shopping experience and AJIO can grow its business.

### 4. Background of the Problem

AJIO, like many big online fashion stores, has to manage a huge catalog of products every day. That means dealing with lots of data, and sometimes things don't go as smoothly as they should. Imagine a customer searching for a blue shirt, but finding it listed as "navy," "navy-blue," and even "blu" in different places. Or maybe a favorite brand is spelled wrong or missing details. These little mistakes can make it hard for shoppers to find what they want, and they can mess up AJIO's search and recommendations, too. When this happens, people get frustrated and might leave the site without buying anything, costing the company sales and making customers unhappy.

Most of these problems start inside the company. Manual data entry errors, outdated systems, or not having clear rules for how information should be entered can all add to the confusion. But there are outside pressures, too. Customers expect a smooth, easy shopping experience and often compare prices and products across different websites. If AJIO's data is messy or prices are confusing, shoppers might just go to a competitor instead. That's why it's so important to keep everything organized and clear.

Another challenge is that there's usually more choice and better deals for women than for men. This can make some shoppers feel left out and limit how much AJIO can grow, especially if certain groups feel the platform isn't for them. It's important to make sure everyone has a fair chance to find what they want.

All these issues matter because they can hurt AJIO's reputation and sales. Research shows most shoppers will switch sites if they have a bad experience or can't find what they want. Clean, consistent data and fair pricing help stores keep customers happy and coming back. Fixing these problems isn't just about making shopping easier—it's about building trust and making sure AJIO stays competitive in a crowded market. That's why I want to look closely at these challenges and find ways to make things better for both customers and the company.

## 5. Problem-Solving Approach

### 5.1 Methods: How I Worked with the Data

- **Cleaning Up Messy Data:** First, I checked for missing values or duplicates, but the data was clean. The real issues were with inconsistent product details—colors like “663,” “wfn4,” and “th6,” and brand names with unusual characters or digits, such as “sports-52-wear” and “code-61.” There were also typos like “allensolly” versus “allen-solly” and “levis” versus “levi-s.” These inconsistencies made it hard for customers to find what they wanted and for AJIO's search and recommendations to work well. To fix these issues, I used Python and fuzzy matching to standardize colors and brand names, grouping similar entries and correcting typos. This made the data more reliable.
- **Product Grouping and Segmentation:** Next, I grouped products by price and gender, setting up price bands like “Budget,” “Mid-range,” and “Luxury” to see how pricing and discounts varied. I also checked for differences in what's available or how discounts are set for men and women.
- **Checking Patterns with Statistics:** Finally, I used statistics to see if these differences mattered. I ran ANOVA to check if discounts varied by price group and t-tests to compare discounts for men and women. I also used correlation analysis to see how prices and discounts were related. This helped me spot real patterns and understand where AJIO could improve.

### 5.2 Data Source: Why I Chose This Dataset

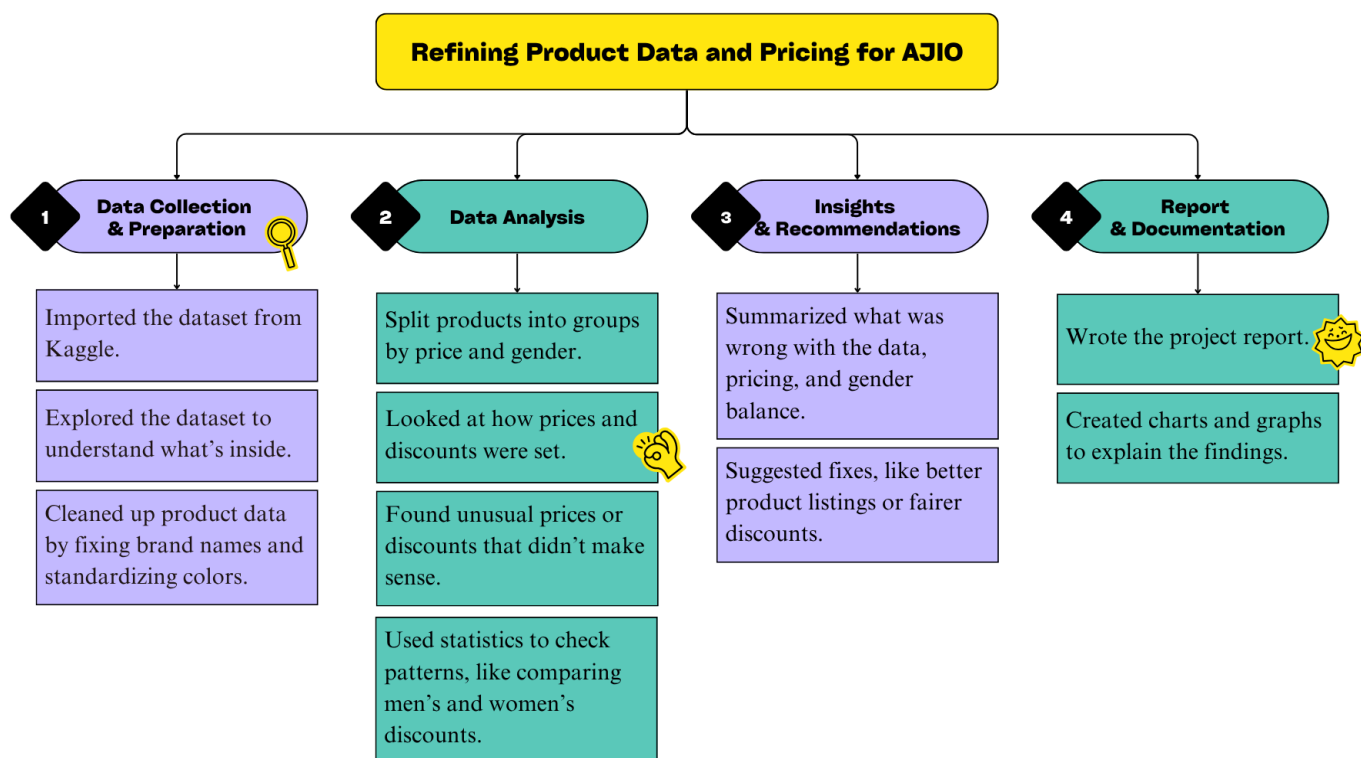
I used a dataset from Kaggle, originally scraped from AJIO's website. It covers over 367,000 products, including names, brands, prices, discounts, colors, and whether each item is for men or women. Since the data comes directly from AJIO, it reflects what customers see and buy. This makes it ideal for spotting trends, identifying problems, and finding ways to improve the shopping experience and boost sales.

## 5.3 Analysis Tools

I used Google Colab to keep everything organized and easy to share. Most of my analysis was in Python, using Pandas to organize and clean the data, NumPy for quick math, and Matplotlib and Seaborn for charts. I fixed typos in color and brand names with Fuzzywuzzy, and ran all statistical tests—like ANOVA and t-tests—with SciPy. This made my analysis clear and easy to share.

## 6. Expected Timeline

### 6.1 Work Breakdown Structure (WBS)



**Figure 1:** Project's work breakdown structure

## 6.2 Gantt chart

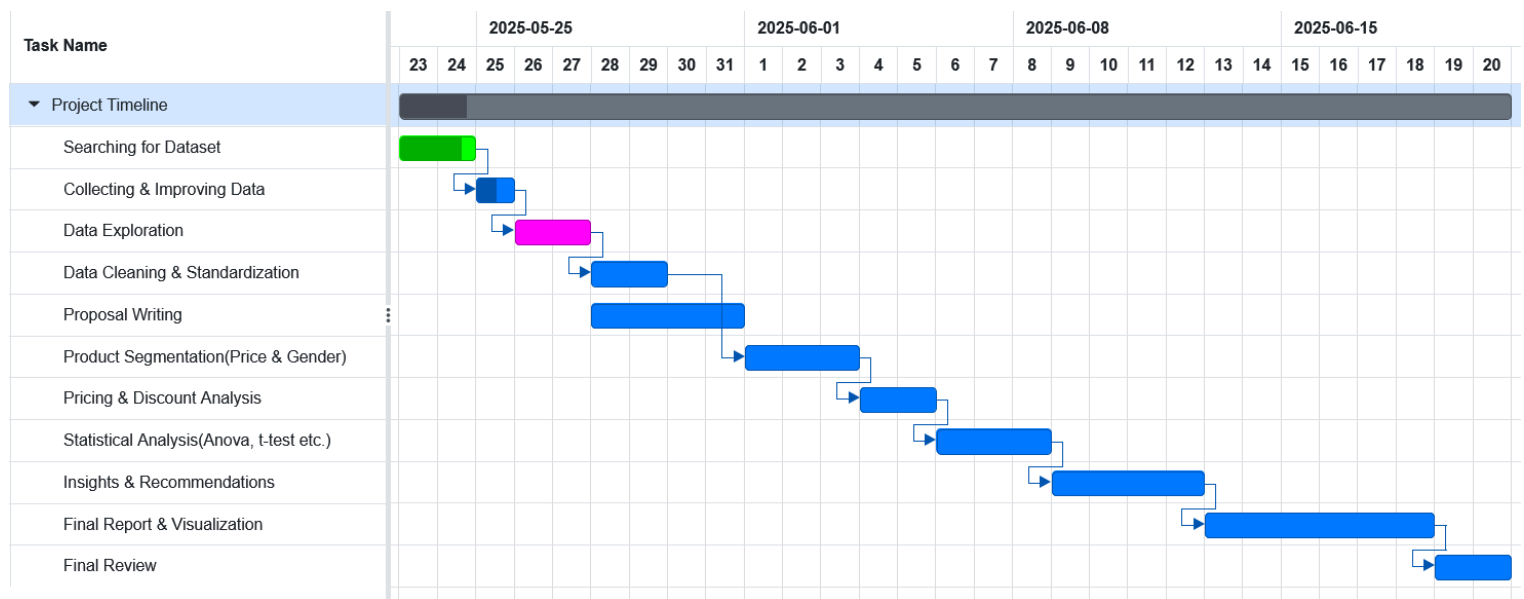


Figure 2: Gantt chart

## 7. Expected Outcomes

**7.1** After cleaning and standardizing product details, like fixing inconsistent color and brand names, AJIO's catalog will be much more reliable and easier to search. This should help customers find what they want quickly and trust the platform more.

**7.2** Grouping products by price and gender will highlight any unfairness or gaps in what's available and how discounts are set. For example, I expect to see clearer ways to balance product offerings and discounts between men and women, so everyone gets a good selection and fair deals.

**7.3** Using statistical analysis, I'll be able to confirm whether pricing and discount strategies are working as intended. If not, AJIO can adjust prices or promotions to avoid confusing or frustrating shoppers. This should lead to a smoother shopping experience and help the company boost sales and customer satisfaction.

This analysis will also show which price bands and brands are most popular and profitable, and where there's room for improvement. Overall, this work will give AJIO practical recommendations for improving product data, pricing, and fairness, helping the business grow while making shopping better for everyone.