FLIPKART BOOK SALES ANALYSIS

18CSE394T – Business Intelligence & Analytics

Mini Project Report

Submitted by

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November 2023

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BONAFIDE CERTIFICATE

Certified that Mini project report titled **FLIPKART BOOK SALES ANALYSIS** is the bonafide work of Reg.No **RA2111027010150, RA2111027010151** Name **AKSHITA SHARMA, KHUSHI AGRAWAL** who carried out the minor project under my supervision. Certified further, that to the best of my knowledge, the work reported herein does not form any other project report or dissertation on the basis of which a degree or award was conferred on an earlier occasion on this or any other candidate.

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1. Problem Statement

This Business Intelligence Analytics Project examines a retail dataset encompassing item details, pricing, discounts, ratings, and delivery information. Our objective is to extract actionable insights for optimizing pricing strategies, enhancing customer satisfaction, and improving operational efficiency. Leveraging advanced analytics, we aim to uncover patterns and trends to inform data-driven decision-making. In the existing landscape, retail analytics has led to personalized marketing, dynamic pricing, supply chain optimization, sentiment analysis, inventory management, recommendation systems, and delivery time optimization. This project builds upon these approaches, focusing on specific dataset attributes to drive transformative insights for the retail and shopping industry.

2. Methodology / Procedure/ Algorithm

Step 1 – Understanding business needs

To have any chance of success with business intelligence, the business must first define what success looks like, and this can be a problem. At the start of this process business users often don't know what they want because they haven't had adequate access to data and may lack a clear idea of what's possible. Even if the business can define some requirements, IT won't yet know what can and can't be delivered because they must first understand the business requirements then compare them to the available source data to find any gaps.

Step 2 – Data gap analysis

Business requirements form one half of the equation when defining the goal pool. The available data forms the other half. Through a careful examination of the available data, in consultation with the various subject matter experts, we'll evaluate and consistently re-evaluate which goals can be supported and will provide the greatest business benefits. The outcome from this process is a list of goals that can be achieved and an estimate of the effort each will require to accomplish.

Step 3 – Goal selection & prioritization

One of the great advantages of utilizing a truly agile process is that the technical solution can adapt rapidly to changing requirements and data without unnecessary delays because each development cycle brings a new opportunity to reevaluate everything we know and adjust the goals and strategy accordingly.

Step 4 – Detailed requirements & design

Any time a goal is prioritized for development we conduct a detailed requirements gathering process that may consist of interviews with stakeholders, subject matter experts and data stewards. The result of this process is a user story that not only describes the desired insight and how the business would like to see the information, but also all of technical detail necessary to source, transform and load the data in the desired form. By combining discovery and design, we are able to move extremely quickly and avoid unnecessary delays that typically result from a time delay between requirements gathering and technical design.

Step 5 – Data solution selection

The data solution is the portion of the technical solution that acquires data and makes it report-ready. The data solution (not the reporting software) is the most important factor in determining what types of reporting can be produced, and by whom. It can range from direct source system reporting to an enterprise-wide dimensionally-modeled data warehouse. This need may change over time based on requirements, and it isn't unusual for a single company to require multiple data solutions at one time..

Step 6 – Data preparation

We develop the custom algorithms (ETL) necessary to automatically prepare data nightly and load the data solution(s). In order to speed this process and facilitate an agile cadence we've spent years developing a proprietary data warehouse automation platform that eliminates 90% of the effort compared with hand coding.

Step 7 – Data modeling

As reporting requirements become more advanced (for example, combining the requirement for massive calculations with the need for instantaneous response times) we introduce advanced data modeling techniques to create specialized or pre-aggregated views of the data. By layering these models over the underlying data solution it is possible to meet the most demanding reporting requirements without sacrificing the integrity and performance of the core data solution.

Step 8 – Data visualization

While these tools alone can't easily solve the age-old problem of "garbage in, garbage out," they play a critical role as the user interface once the data has been prepared and is report-ready. We leverage one or more reporting applications (based on specific requirements) to effectively communicate the story the data is telling and reveal important insights. This may include

developing visualizations, dashboards, scorecards, self-service reporting, report distribution and threshold-triggered or exception-based notifications.

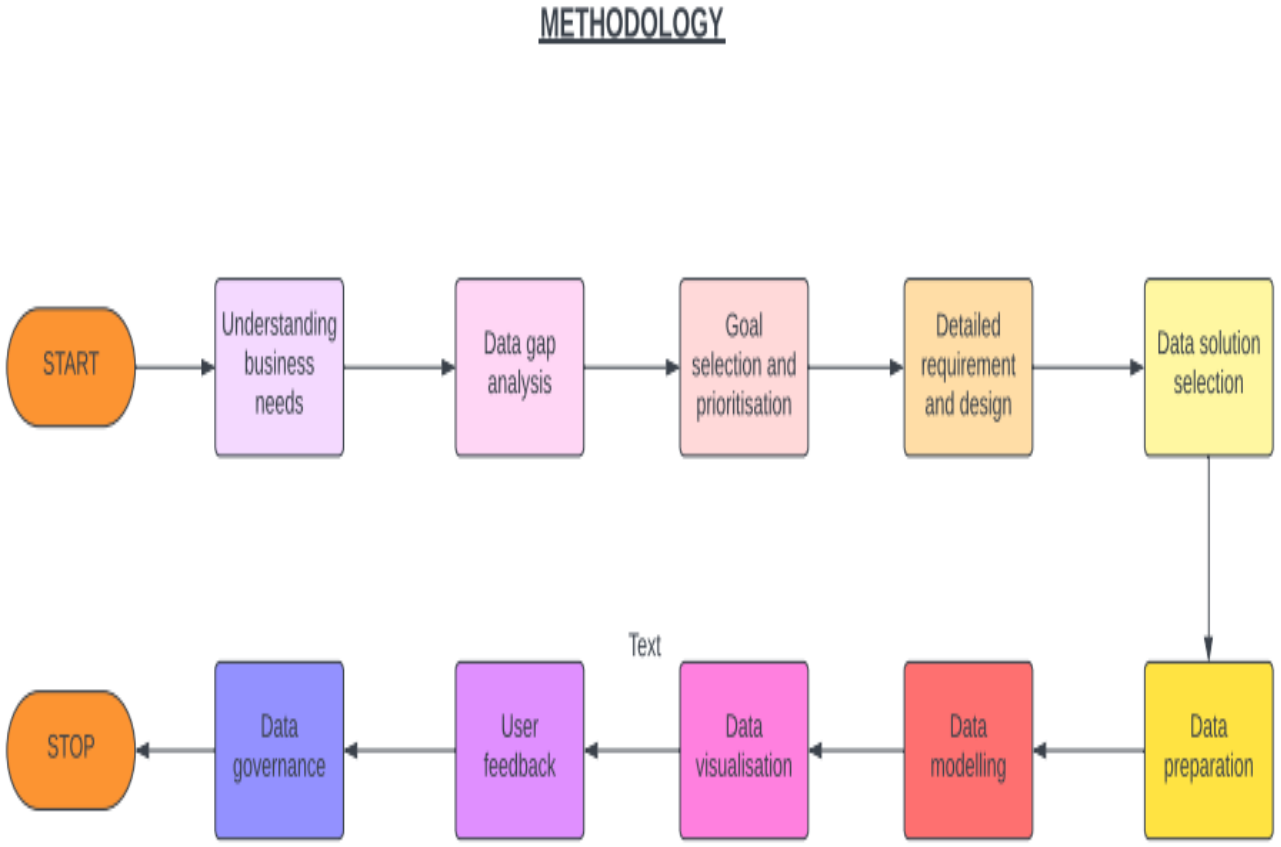
Step 9 – User feedback

The traditional, project-based approach to data warehousing and business intelligence has one fatal flaw. The discovery process is compressed into the shortest possible time frame so an “accurate” plan can be created before design begins. After discovery, end-users sit idly on the sidelines until the entire system has been developed and is ready for testing. By then, months have passed and business priorities and reporting requirements may have shifted. New data may also have become available, and source systems may have been upgraded or migrated. So even if the team succeeds in building a working solution, it may no longer be what the business needs, or at the very least it will need further modification.

Step 10 – Data governance

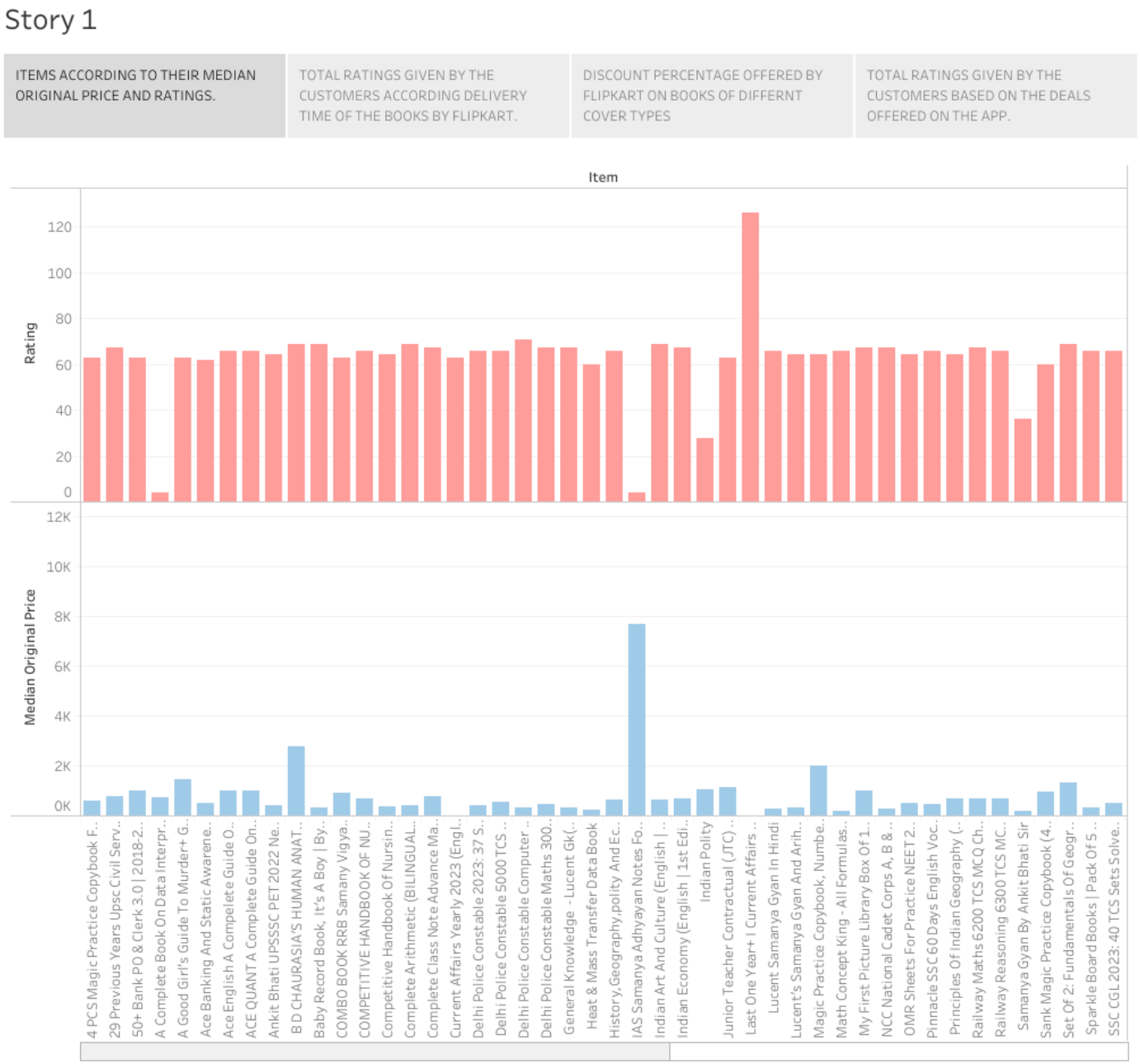
The final, critical ingredient for business intelligence success is to engage all stakeholders in an ongoing effort to govern and manage master data and metadata that feeds the data warehouse or alternative data solution. Companies that embrace this step and dedicate the necessary resources are rewarded with the competitive advantage that comes when everyone in the company has the information they need to optimize their portion of the business.

3. Flow chart


METHODOLOGY
START
Understanding business needs
Data gap analysis
Goal selection and prioritisation
Detailed requirement and design
Data solution selection
Data preparation
Data modelling
Text
Data visualisation
User feedback
Data governance
STOP

4. Visualization to draw conclusions

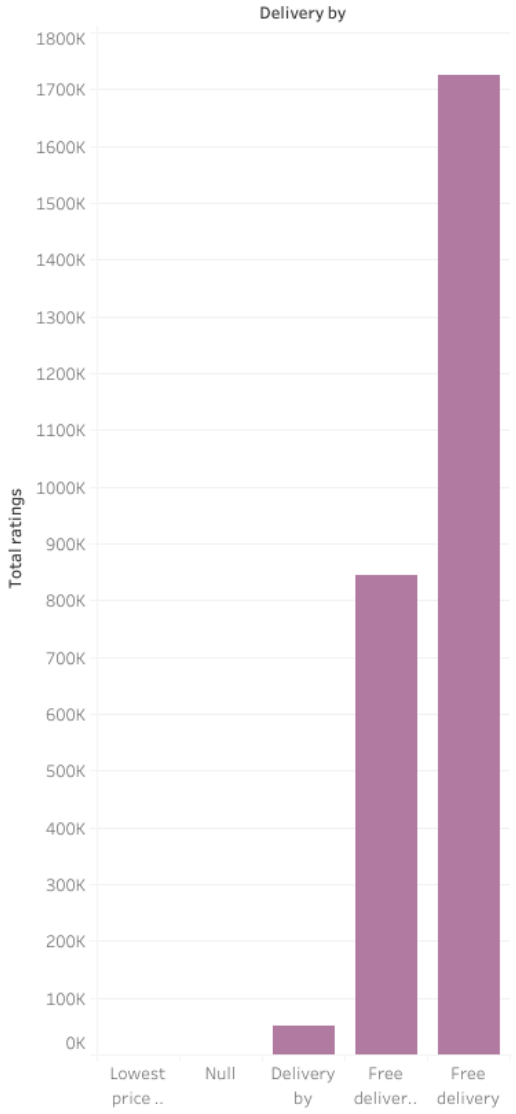
1.



2.

Story 1

ITEMS ACCORDING TO THEIR MEDIAN ORIGINAL PRICE AND RATINGS.	TOTAL RATINGS GIVEN BY THE CUSTOMERS ACCORDING DELIVERY TIME OF THE BOOKS BY FLIPKART.	DISCOUNT PERCENTAGE OFFERED BY FLIPKART ON BOOKS OF DIFFERNT COVER TYPES	TOTAL RATINGS GIVEN BY THE CUSTOMERS BASED ON THE DEALS OFFERED ON THE APP.



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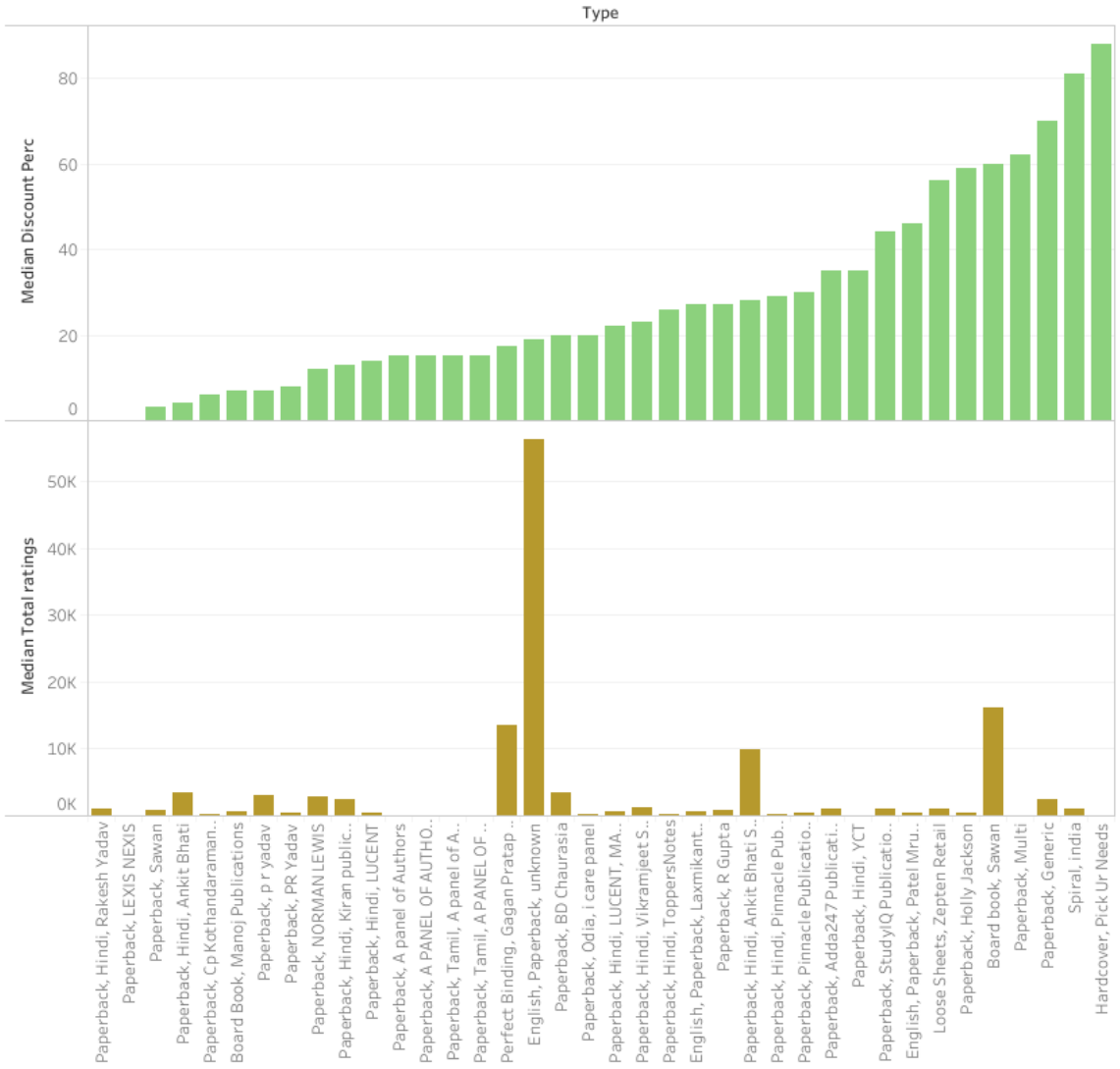

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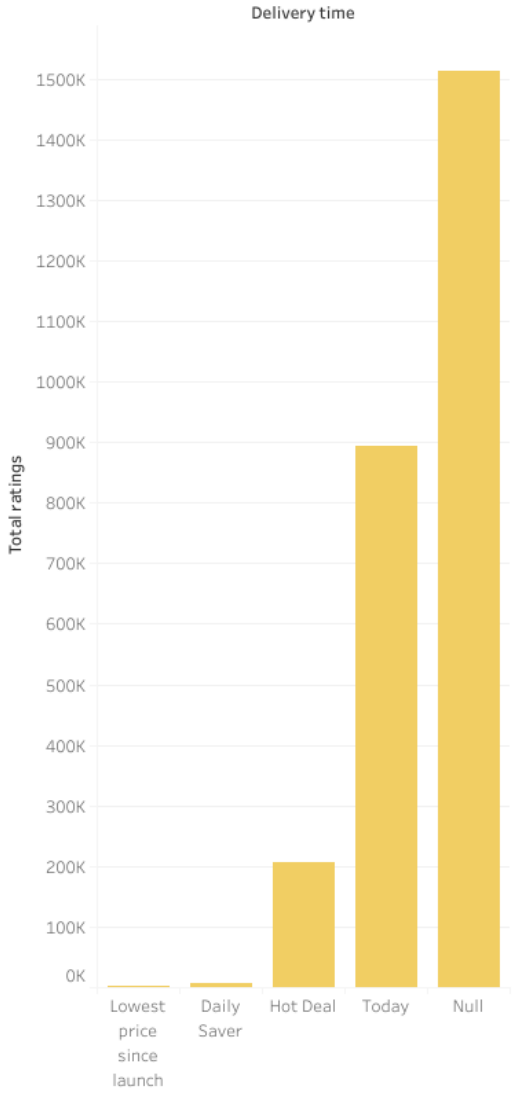

6. Proposed Changes

- GRAPH 1:

  The prices are highest for exam prep books, however the ratings are contradictory. The ratings are low because of the exorbitant price . Therefore, FLIPKART should consider offering higher discounts on these books.

- GRAPH 2:

  From the graph it can be concluded that as the delivery time increases the ratings drop down. Even at free delivery service, if the time is more, the ratings are low, resulting in customer dissatisfaction. Thus FLIPKART should try to decreasethe delivery time for books.

- GRAPH 3:

  The discount offered on hardcover is highest compared to the other cover types however the ratings of these are still very low. These can be attributed to the higher price of hardcover. Even after highest discount price on it, it loses out on ratings and customers to English Paperbacks. Therefore, the original prices of the hardcovers should be lowered to increase its favourability among customers.

- GRAPH 4:

  It can be concluded that even after offering deals on products, customers ratings remain highest for books without any offers on them. This means that the customers are not satisfied with the deals offered and FLIPKART should revise the daily deals offered.

7. Results:

Thus, using Tableau we have successfully analysed and visualised book sales of FLIPKART and proposed changes.

8. Conclusion

In conclusion, our analysis of Flipkart's book sales has revealed valuable insights and opportunities for improvement. By proposing changes and leveraging Tableau for data visualization, we have identified key areas for optimization, such as refining product categorization, enhancing marketing strategies, and improving customer segmentation. These actions can contribute to increased sales and customer satisfaction. It is evident that data-driven decisions and visualization tools like Tableau can play a pivotal role in making informed business choices. As Flipkart continues to evolve, our recommendations and visualizations provide a solid foundation for driving growth and success in the book sales segment.

9. References

10 Steps to Business Intelligence Success - LeapFrogBI
Discover | Tableau Public