**Project Charter Document**



**Project Name:** Project 68

**Department:** Retail Analytics

**Focus Area:** Price Optimization

**Product/Process:** Data Analysis



**Prepared By**

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| --- | --- |
| **Document Owner(s)** | **Project/Organization Role** |
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**Project Charter Version Control**

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| **Version** | **Date** | **Author** | **Change Description** |
| 1.0 | 12/04/2021 |  | Document created |
|  |  |  |  |

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# PROJECT CHARTER PURPOSE

The project charter defines the scope, objectives, and overall approach for the work to be completed. It is a critical element for initiating, planning, executing, controlling, and assessing the project. It should be the single point of reference on the project for project goals and objectives, scope, organization, estimates, work plan, and budget. In addition, it serves as a contract between the Project Team and the Project Sponsors, stating what will be delivered according to the budget, time constraints, risks, resources, and standards agreed upon for the project.



# PROJECT EXECUTIVE SUMMARY

* **Project goals**

To help the client decide the optimum price for a product keeping the revenue maximum.

* **Objectives**

1)To build a pipeline to fetch data from a live source server

2)To clean the dataset and perform Exploratory data analysis

3)To build a model which will predict the optimum price for an item with maximum profits

4)To build an application which can predict the optimum price for an item with the given input values

* **Scope**

The price optimization model will suggest best price at which a product should be sold to achieve maximum revenue. This will ensure the sales of the product are increased with added advantage of maximizing the profits.

* Assumptions

* Risks

The data available for each product is less, hence it is very difficult to attain consistent accuracy for each product.

* Costs
* Timeline

The timeline of the project was from 12 April to 10 June 2022.

* Approach

An algorithm was written to find the optimized price for a product based on the selling price of the product and the no. of products sold.

* Organization



# PROJECT OVERVIEW

The project focuses on predicting an optimized price for a product which will yield maximum profit by increasing the product sale. This prediction system will help the client to get a suggested price based on the selling cost of a product and the number of products sold. The project will have a connection between the server where the sales data will be stored and the model will fetch the data to predict the optimized price. The deployment will be using streamlit.



# PROJECT SCOPE

There are around 2300 products from different Brands having different material category. The sales of the product is also categorized according to 4 zones. The revenue for a product will yield maximum profit if the sales are increased. This will also help the increase the popularity of that particular product. This can be achieved by giving discounts to the customers. But giving heavy discount may affect the profits in the sales of product. Hence, an optimized selling price is to be predicted which will consider all the points discussed above.

## Goals and Objectives

|  |  |
| --- | --- |
| **Goals** | **Objectives** |
| * To predict the price to be sold for the given items based on various parameters | * To find the no of products sold based on the selling price. * To find the optimum price of the product where it will yield maximum profit. |

## Project Deliverables

|  |  |
| --- | --- |
| **Milestone** | **Deliverable** |
| * Identifying Constraints and design the project architecture, explore various public forums to collect relevant data, Data Preparation. | * Identifying Constraints and design the project architecture. * Explore various public forums to collect relevant data. * Data Preparation |
| * EDA and Descriptive Analytics, Model Building for Association (Fuzzy Algorithm) and Recommendation | * EDA and Descriptive Analytics * Model Building for prediction of no. of products sold based on selling price, * Creating a custom function that will calculate and plot the relation between the revenue and selling price. |
| * Model Evaluation, tuning and insights, Deployment | * Model Evaluation, tuning and insights. * Deployment |
| * Show case and review, Final Presentation and documentation, Handover and KT. | * Show case and review * Final Presentation and documentation * Handover and KT |

## Deliverables Out of Scope

* Prediction of products sold very rarely.

## Project Duration (start date: 12/04/2022 End date: 10/06/2022)

|  |  |  |  |
| --- | --- | --- | --- |
| **Project Milestone** | **Date Estimate** | **Deliverable(s) Included** | **Confidence Level** |
| * Identifying Constraints and design the project architecture, explore various public forums to collect relevant data, Data Preparation. | [12/04/2022]  -  [27/04/2022] | * Deliverable 1.1—Identifying Constraints and design the project architecture. * Deliverable 1.2—Explore various public forums to collect relevant data. * Deliverable 1.3— Data Preparation | [High] |
| * EDA and Descriptive Analytics, Model Building for Association (Fuzzy Algorithm) and Recommendation | [28/04/2022]  -  [11/05/2022] | * Deliverable 2.1— EDA and Descriptive Analytics * Deliverable 2.2— Model Building for Association (Fuzzy Algorithm) and Recommendation | [High] |
| * Model Evaluation, tuning and insights, Deployment | [12/05/2022]  -  [26/05/2022] | * Deliverable 3.1— Model Evaluation, tuning and insights. * Deliverable 3. 2— Deployment | [High] |
| * Show case and review, Final Presentation and documentation, Handover and KT. | [27/05/2022]  -  []10/06/2022 | * Deliverable4.1 – show case and review * Deliverable4.2 – Final Presentation and documentation * Deliverable4.3 – Handover and KT | [Medium] |



# PROJECT CONDITIONS

## Project Assumptions

* Work on data which is extracted from public sources.
* Can create a web API by using streamlit or flask.
* Cloud deployment should be done.

## Project Issues

**Priority Criteria**

1 − High-priority/critical-path issue; requires immediate follow-up and resolution.

2 − Medium-priority issue; requires follow-up before completion of next project milestone.

3 − Low-priority issue; to be resolved prior to project completion.

4 − Closed issue.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **#** | **Date** | **Priority** | **Owner** | **Description** | **Status & Resolution** |
| 1 |  | High |  |  |  |
| 2 |  | High |  |  |  |

## Project Risks

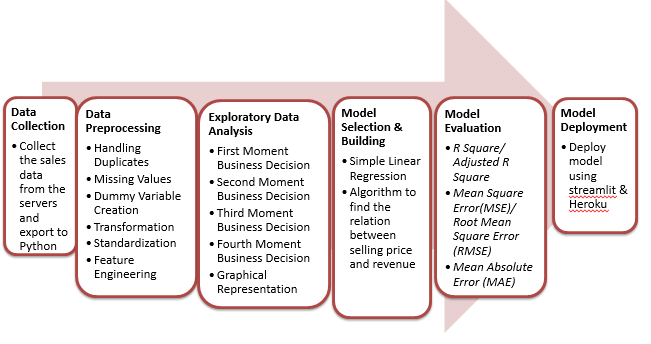
|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **#** | **Risk Area** | **Likelihood** | **Risk Owner** | **Project Impact-Mitigation Plan** |
| 1 | [Project Risk] | [High/Medium/Low] |  |  |
| 2 | [Project Risk] | [High/Medium/Low] |  |  |

## Project Constraints



* The prediction system does not cover all the products sold. The products which are sold very rarely will not have accurate prediction.
* The bell shaped curve for the revenue vs selling cost is an important constraint

# Project Structure Approach





# Project Team Organization Plans

|  |
| --- |
| * Deliverable 1.1— * Deliverable 1.2— * Deliverable 1.3— |
| * Deliverable 2.1— * Deliverable 2.2— |
| * Deliverable 3.1— * Deliverable 3. 2— |
| * Deliverable4.1 – * Deliverable4.2 – * Deliverable4.3 – |



# PROJECT REFERENCES

|  |  |
| --- | --- |
| **Milestone** | **Deliverable** |
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# APPROVALS

**Prepared by** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Project Manager

**Approved by** Sharat Chandra M\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Project Sponsor

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Executive Sponsor

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Client Sponsor



# APPENDICES

## Document Guidelines

## Project Charter Document Sections Omitted

