**RFM ANALYSIS USING PYTHON**

**A**

**Project**

**Submitted in partial fulfilment of the requirement for the award of Degree of Bachelor of Technology in Computer Science and Engineering**

**Submitted to**



**IES College of Technology, Bhopal MP**

**Submitted By**

**Name:** Abhiyuday Sharma

**Enrollment No.:**  0177ME201009

**Branch :**  Computer Science and Engineering

**Year:** 4th

# Department of Computer Science and Engineering

**IES COLLEGE OF TECHNOLOGY, BHOPAL**

**Session 2023-24**

# ABSTRACT

RFM (Recency, Frequency, Monetary) Analysis is a widely adopted concept in the field of data science, particularly in marketing, to understand and segment customers based on their buying behavior. This project focuses on performing RFM Analysis using Python, aiming to provide insights into customer engagement, loyalty, and value.

By leveraging a dataset containing customer IDs, purchase dates, and transaction amounts, RFM values are calculated for each customer. The project emphasizes the significance of RFM metrics in assessing customer behavior patterns and segmenting them effectively. The analysis is conducted through the evaluation of recency (the date of the last purchase), frequency (purchase occurrence), and monetary value (amount spent) metrics.

The methodology encompasses data collection, preprocessing, RFM value calculation, customer segmentation, and analysis. Python libraries such as pandas, numpy, and matplotlib are employed for data manipulation, visualization, and analysis tasks. The project demonstrates the importance of RFM Analysis in optimizing marketing strategies, improving customer retention, and maximizing customer lifetime value.

The future enhancements and recommendations chapter suggests integrating RFM Analysis with predictive modeling techniques to further enhance customer segmentation and personalization. It also emphasizes the potential for automation in marketing campaigns based on RFM insights.

In conclusion, this project showcases the value of Python and RFM Analysis in understanding and segmenting customers based on their buying behavior. By leveraging RFM metrics, businesses can gain actionable insights for targeted marketing strategies, leading to improved customer engagement, loyalty, and business performance.

.

**CONTENTS**

|  |  |
| --- | --- |
| **Chapter 1** | **INTRODUCTION** |
| **Chapter 2** | **RATIONALE** |
| **Chapter 3** | **METHODOLOGY** |
| **Chapter 4** | **IMPLEMENTATION** |
| **Chapter 5** | **FUTURE ENHANCEMENT AND RECOMMANDATIONS** |
| **Chapter 6** | **CONCLUSION** |