MES COLLEGE OF ENGINEERING, KUTTIPPURAM
DEPARTMENT OF COMPUTER APPLICATIONS
20MCA246 – MAIN PROJECT

PRO FORMA FOR THE APPROVAL OF THE FOURTH SEMESTER MAIN PROJECT

(Note: All entries of the pro forma for approval should be filled up with appropriate and complete information. Incomplete Pro forma of approval in any respect will be rejected.)

Main Project Proposal No : _____
(Filled by the Department)

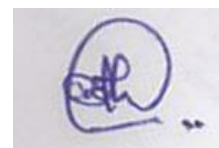Academic Year   : 2021- 22

Year of Admission   : 2020

1. Title of the Project   :   ECOMMERCE ON FASHION TRADING.

2. Name of the Guide   :   MS. PRIYA JD

3. Student Details (in BLOCK LETTERS)

Name	Register Number	Signature
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Date:

Approval Status :   Approved / Not Approved

Signature of
Committee Members

Comments of the Guide   Dated Signature

Initial Submission   :

First Review   :

Second Review   :

Comments of the Project Coordinator   Dated Signature

Initial Submission:

First Review

Second Review

Final Comments:

Introduction:

E-commerce or electronic commerce is a process of Buying, selling, transferring, or exchanging products, services, and/or information via electronic networks and computers. Commerce is a fundamental to the success of any business. To streamline trading operations and maintain profits, the industry must focus on commerce, which deals with a lot more than just buying and selling. As the world is digitalizing, ecommerce solutions are increasingly becoming common. The advent of machine learning and artificial intelligence has further enhanced the effectiveness of ecommerce. The examples of ecommerce include eBay, Amazon, Upwork, Olx, etc.

The advantages of ecommerce shopping are Lower price for products compared to traditional shopping, Time saving, we can avoid crowds in shopping, Available wide range and verity of products, shipping/delivery options and also it provides Feedback option from customers.

The ecommerce provides two options for selling products they are Ecommerce Website and Ecommerce Mobile Application. Some customers choose to buy goods from the website and others from the mobile app.

The company needs to make sure which one gets the most revenue/annual income for future benefits.

The annual income of a company is the total money it earns from its business operation during one financial year. We can calculate the annual income by adding the following components:

- Income from selling products or services
- Capital gains from selling the shares of the company
- Income from selling surplus equipment or property of the company
- Income from interest or fees levied on the company's intellectual property.

Objectives:

The objective of this project is which variables (website or mobile app) are contributing towards the more annual income prediction based on Ecommerce Customers csv file from the company.

Firstly we use **Exploratory Data Analysis (EDA),** it is an approach to analyse the data using visual techniques. It is used to discover trends, patterns, or to check assumptions with the help of statistical summary and graphical representations.

The next step is Data Preparation, which includes

- Data cleaning:- cleaning of data by checking for null values/missing values (if we have null values we need to impute mean, median or mode values)
- checking for duplicates and conversion of data types
- Feature engineering :- elimination of unwanted features , feature addition(if needed) and feature transformation
- Data transformation :- we need to transform the data to get good model(with low errors)

    Then we test the data by using various Testing strategies, they are Normality Testing, Multicollinearity testing and also checking the outliers and Relationship between features and target variables.

    Then we build 5 models from it, and find out the errors after some aggregations are applied to these models (log transformation, sqrt transformation, and reciprocal transformation).

Then we finally get the best model out of these models with low mae & mape on normal models and other transformation models. The Random Forest is used in this project for the visualization purpose of the final output. Finally we realize which variables are contributing towards the more annual income prediction.

Problem Definition:

A project with an Ecommerce company based in London sells clothing online but they also have in-store style and clothing advice sessions. Customers come in to the store, have sessions/meetings with a personal stylist, then they can go home and order either on a mobile app or website for the clothes they want.

The company is trying to decide whether to focus their efforts on their mobile app experience or their website. They've asked to help them figure it out.

I worked with the Ecommerce Customers csv file from the company. It has Customer info, such as Email, Address, and their color Avatar. Then it also has numerical value columns:

- Avg. Session Length: Average session of in-store style advice sessions.
- Time on App: Average time spent on App in minutes
- Time on Website: Average time spent on Website in minutes
- Length of Membership: How many years the customer has been a member.
- Yearly Amount Spent: The total amount the customer is spending.

Business problem: Interpret which variables are contributing towards the more annual income prediction

Basic functionalities:

Interpret which variables are contributing towards the more annual income prediction in an ecommerce company based on the Ecommerce Customers csv file from the company (Attributes -> Avg Session length, Time on App, Time on Website, Length of Membership, Yearly amount spent).

Tools / Platform, Hardware and Software Requirements:

Hardware Requirements

Processor: i3

Hard Disk: 500 GB

RAM: 4 GB

Software Requirements

Language: Python

Front End: Python-Jupyter

Dataset: 2020 sales result

Techniques Used: Linear Regression , Ridge Regression ,Decision Tree , Random Forest