
MARKET ANALYSIS FOR FARMERS

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ABSTRACT

India is a agro based country. The main thing that India's farmers are dependent on is their produce The main livelihood of the majoritarian population here is through farming who dwell in villages and feed the whole country. Food is one of the basic necessities of a human being, which is fulfilled by the farmers. However, they fail to get proper price of the stock they sell in the market. Hence, they are deprived from getting profits for their stock. In spite of being most important sector it is facing lots of the problem. Condition is worst enough which leads to the suicide of farmers. So far the betterment of farmers and ultimately for the rural development there is a need to know the importance of proper marketing of agriculture produce and how the better marketing affects the farmers livelihood. Still india being a self dependent country farmers are still dependent towards Traders/Wholesalers who sell their produce at a very low price i.e 2rs per kilo whereas they sell at a very higher rate in retail markets. A lot has been said in support of farmers but less has been actually done about it. So in order to help farmers there is a need to establish a link between farmers and customers. Since many years there has been a stagnant rate at which farmers have been able to sell off their crops and with rising inflation and farming equipment, They have been under a lot of stress themselves and we have seen increased cases of farmer suicides. They have been taking loans from a longer time and any difficulty to repay them is adding to their stress, So the loans are piling and they don't have any money to repay them.

Keywords: Farmers.

I. INTRODUCTION

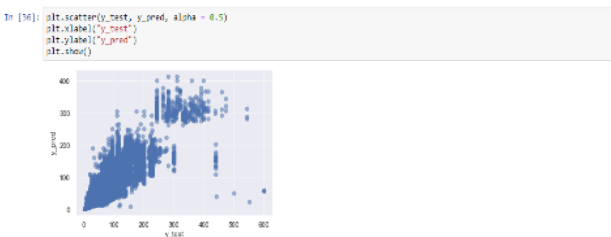
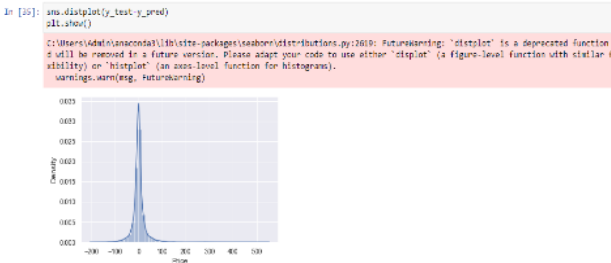
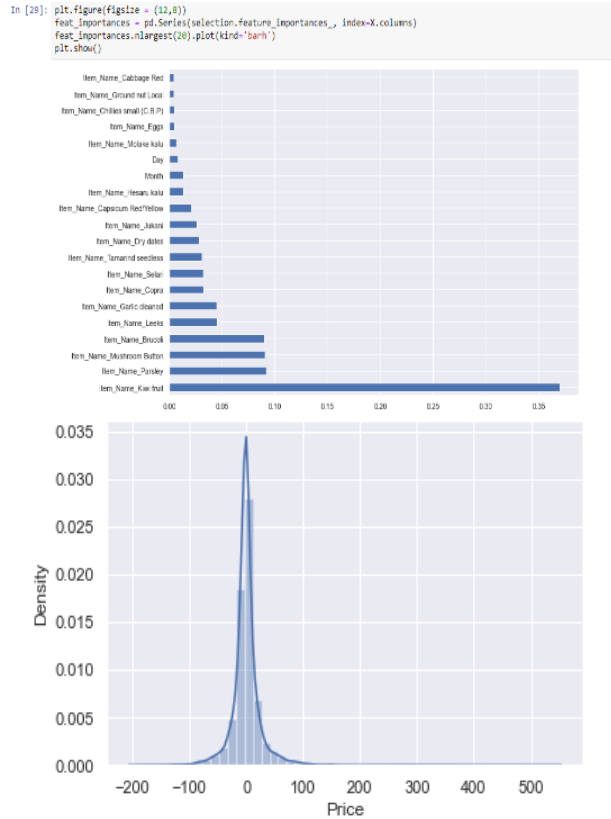
Increase in population will be more in India than other countries. The increase in income results in increased demand for more and better food It has been calculated that, due to increase in population and individual's income, the world food demand will double by 2050. There has been a significant variation in the rates of agricultural products like fruits, food grains, vegetables, etc. When the price of any community set to high then the supplier tries to produce more goods and to make more profit, the consumer will tend to purchase less because of high rate and suppliers incur loss. So there is huge gap between suppliers and consumers resulting in loss of goods. An effective forecasting model is proposed that reduces the gap between demand and supply by analyzing various factors related to market. Some farmers who live very near to the cities bring their stock directly to the wholesale markets and sell their stock to the retailers and end customers. But for the farmers who live in the remote areas, it is not possible for them to come to the cities do frequently and sell their stock directly in their quoted price. Hence, they have no other option but to contact the wholesale vendor for selling their products in the market. It is indeed a very long process to grow crop since there are various other conditions such as weather issues, soil infertility, seed defects etc. They expect to get some profits for many such issues they face.

II. METHODOLOGY

Proposed System: Our system proposes the analysis of market demands and prediction of the prices of crops with the help of collected dataset.

1. Building a Model: The model was built on jupyter notebook Using the dataset we collected of Vegetables and Fruits prices in India.

- Imports: By importing various python libraries including pandas, NumPy and sklearn the predicting model was created. The plotting of graph was done by matplotlib library.



- Building the App using Flask:

```
Major-Analysis-for-Farmers > @ app.py > ..
1 from flask import Flask, request, render_template
2 from flask_cors import cross_origin
3 import sklearn
4 import pickle
5 import pandas as pd
6
7 app = Flask(__name__)
8 # model = pickle.load(open("flight_model", "rb"))
9
10 items = ['Arive greens', 'Banana cooking B.banana', 'Basale Greens',
11 Beet Root', 'Brinjal (S)', 'Brinjal (M)',
12 Brinjal bottle', 'Brinjal', 'Cabbage',
13 Cabbage Red', 'Cabbage chaina',
14 'Caspicum Red/Yellow', 'Cauliflower(M)',
15 'Chakota greens', 'Chikadi ksil',
16 Chillies Green', 'Chillies small (C.B.P)',
17 'Chowchow', 'Coconut (S)', 'Coconut (M)',
18 'Coconut (OS)', 'Coconut (S)', 'Corna',
19 'Dry dates', 'Eggs', 'Garlic cleaned',
20 'Greens Sabback', 'Ground nut Local',
21 'Herasli ksil', 'Herasru Kalu', 'Juhani',
22 'Kasadi', 'Kadi-fruit', 'Lentils',
23 'Little gourd', 'Mangalore cucumber',
24 'Molake kalu', 'Mushroom Button',
25 Onion sabber', 'Palak Greens', 'Parsley',
26 'Pumpkin raw', 'Pumpkin Japan',
27 'Pumpkin Red', 'Raddish', 'Seleri',
28 'Shae gadder', 'Spring Onion',
29 'Sweet Potato(Genasa)', 'Sweet corn',
30 'Tamarind seedless', 'Tender Coconut(S)',
31 'Van'S.Root', 'Kno3-kno1']
32
```

```

31 @app.route('/')
32 @cross_origin()
33 def home():
34     return render_template("home.html", items=items)
35
36
37
38
39
40
41 @app.route("/predict", methods = ['GET', 'POST'])
42 @cross_origin()
43 def predict():
44     if request.method == "POST":
45
46
47         date = request.form["date"]
48         day = int(pd.to_datetime(date, format="%Y-%m-%d").day)
49         month = int(pd.to_datetime(date, format="%Y-%m-%d").month)
50         item_name=request.form["item_name"]
51         output_list = []
52         for item in items:
53             if item == item_name:
54                 output_list.append(1)
55             else:
56                 output_list.append(0)
57
58         prediction=model.predict([output_list])
59         output=round(prediction[0],2)
60
61         return render_template("home.html", item_name=item_name, day=day, month=month, output=output, items=items)
62
63
64
65
66 return render_template("home.html", items=items)

```

2. Build the UI for the App: The App needed User Interface for interacting with the data using HTML & CSS.

- HTML part:

```

1 <html lang="en">
2
3 <head>
4 <meta charset="UTF-8">
5 <meta name="viewport" content="width=device-width, initial-scale=1.0">
6 <title>Market Analysis for farmers</title>
7
8
9 <!-- Bootstrap -->
10 <link rel="stylesheet" href="https://stackpath.bootstrapcdn.com/bootstrap/4.5.0/css/bootstrap.min.css"
11     integrity="sha384-9aIt2nRpC12Uk9uS674rDtGlgG4CDHpU7CBll549Ij8qygzYf4Q8LihzJz6LQ7S5L" crossorigin="anonymous">
12
13
14 <!-- CSS -->
15 <link rel="stylesheet" href="static/css/styles.css">
16
17
18 </head>
19
20 <body>
21
22 <!-- As a heading -->
23 <nav class="navbar navbar-inverse navbar-fixed-top">
24 <div class="container-fluid">
25 <div class="navbar-header">
26 <a class="navbar-brand" href="#">MARKET ANALYSIS FOR FARMERS</a>
27 </div>
28 </div>
29 </nav>
30
31 <div class="container">
32
33 <div class="row">
34 <div class="col-lg-3"></div>
35 <div class="col-lg-6">
36 <div class="card">
37 <div class="card-body">
38 <form action="/predict" method="post">
39 <div class="card-title">Data to sell item:</div>
40 <input type="text" class="form-control" name="date" id="date" required="">
41
42 <div class="card-title">Select item:</div>
43 <select name="item_name" id="item_name" class="form-control">
44 <!-- For item in items -->
45 <option value="{{item}}">{{ item }}</option>
46 <!-- endfor -->
47 </select>
48 </div>
49 <input type="submit" value="SUBMIT" class="btn btn-success">
50 </form>
51
52 <!-- if item_name -->
53 <div class="alert-primary p-2">Predicted price of {{ item_name }} on date {{ day }}</div>
54 <!-- endif -->
55 </div>
56 </div>
57 </div>
58 </div>
59 </div>
60
61
62
63
64
65

```

- CSS Part:

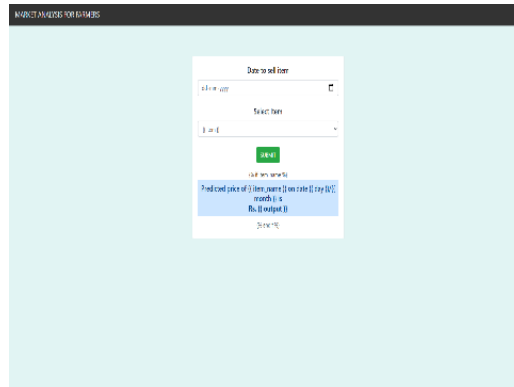
```

1 body {
2     background-color: #e1f4f3;
3     text-align: center;
4 }
5
6 .navbar {
7     background-color: #333333;
8 }
9
10 a {
11     color: #f1f9f9;
12 }
13
14 a:hover {
15     color: #f0f0f0;
16 }
17

```

- Final Output:

Here is the final pic of How the interface looks. It includes the selection of date and crops giving us the predicted price using dataset.



III. SCOPE OF THE PROJECT

1) Customers: A convenient method to order the agro products such as food grains, vegetables online in wholesale or retail. Direct trade between customers and farmers through a virtual intermediary. Ensuring a reliable customer service for customer satisfaction. Timely delivery of stock keeping in mind non-perishability of goods. An innovative platform for buying agro products online.

2) System: The System being a new concept would be useful for conducting direct trade between customers and farmers Customer satisfaction would result in building goodwill and reputation in market to increase reliability

3) Farmers: Farmers can sell their stock online to the customers directly such that they can sell at profits by the bidding price quoted by them to the highest price in which the customers are ready to buy. Farmers can sell their stock online

IV. TOOLS USED

- We have used diverse records technology associated libraries like Pandas, Sklearn, Matplotlib, Seaborn, NumPy etc.
- VS Code and Jupyter Notebook is used for code improvement and for creation of the model.

V. CONCLUSION

Market Information is an important facilitating function in marketing system. An efficient marketing information system can manage timely delivery of products, reduce marketing costs and increase production and productivity and it helps to make the market healthy. The existing practices of Marketing information systems generally emphasize only the collection of selling price of different agricultural commodities, volume of arrival and source of origin. A properly established and well-coordinated agricultural information system has the potential of promoting free trade based on an open, transparent and agro marketing system could serve as a decision support tool for farmers.

VI. REFERENCES

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