Predict Tomorrow's Sales

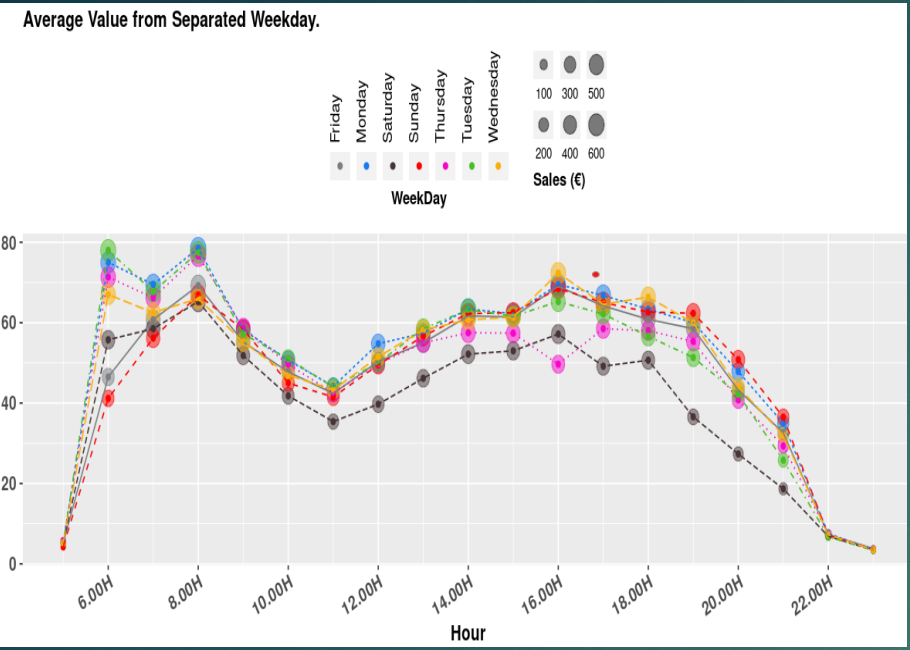## WITH 80%-90% ACCURACY

Product Feature & Benefit

I have developed software that could analyze sales time separated minute-by-minute. By taking into account every sales time (e.g., 17/02/2023 12:34:56) as one customer entry, it counts a total number of customers within each hour. And then it generates a plot showcasing the fluctuation of customer number throughout the day. The fluctuation of customer number will help you understand the busy and quieter hours of your business.

By examining the fluctuating pattern of customer number across each hour of the day, it can predict tomorrow's customer count with an impressive accuracy. It helps to do advance planning for sales, such as a required number of employee allocation for every hour of the day.
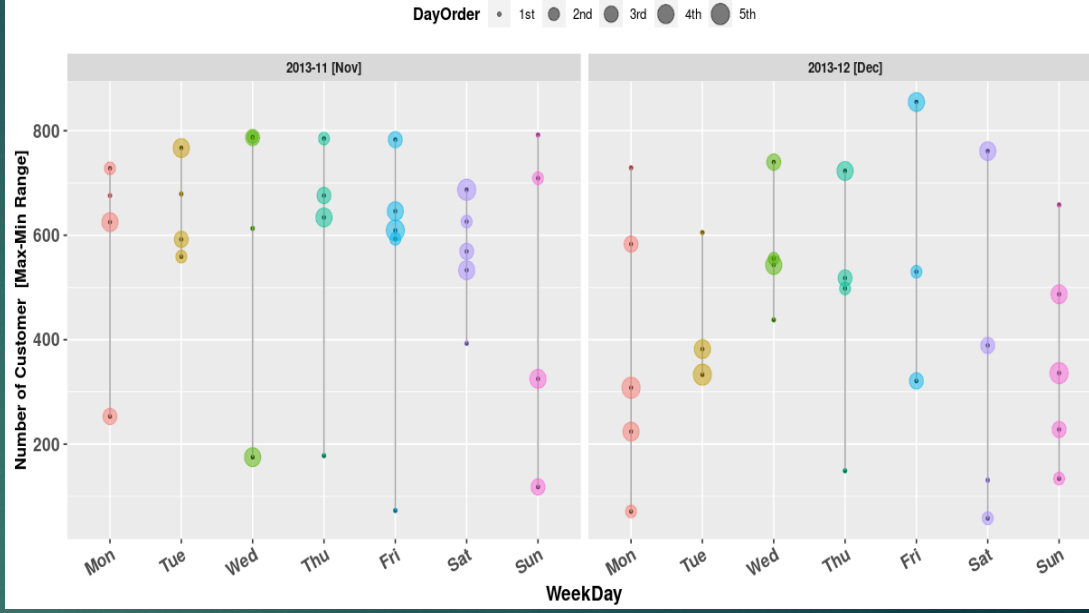
It is simple to use. Just upload your data file (.csv, .xlsx, .txt) and see the result within a minute. It saves money by avoiding the need of a costly analyst. Your valuable business information remains in your hands.

It is fully online-based. This means that you can use it on any device, whether it's your smartphone, tablet, laptop, or desktop.

Output: Analyze sales behavior across different hours

Average Value from Separated Weekday.

WeekDay: Friday, Monday, Saturday, Sunday, Thursday, Tuesday, Wednesday

Sales (€): 100 300 500 | 200 400 600

X-axis: Hour (6.00H, 8.00H, 10.00H, 12.00H, 14.00H, 16.00H, 18.00H, 20.00H, 22.00H)
Y-axis: Number of Customer (0, 20, 40, 60, 80)
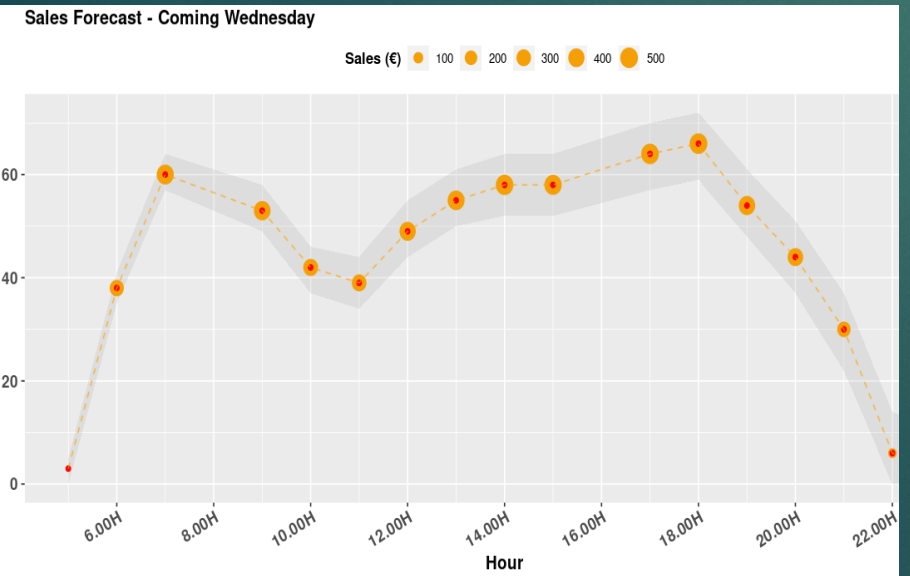
Example – Input Dataset

TRANSACTION RECORD

COMPANY LLC
123342, SEA SIDE AVE
ASPEN, CA, 12344
800-232-2334

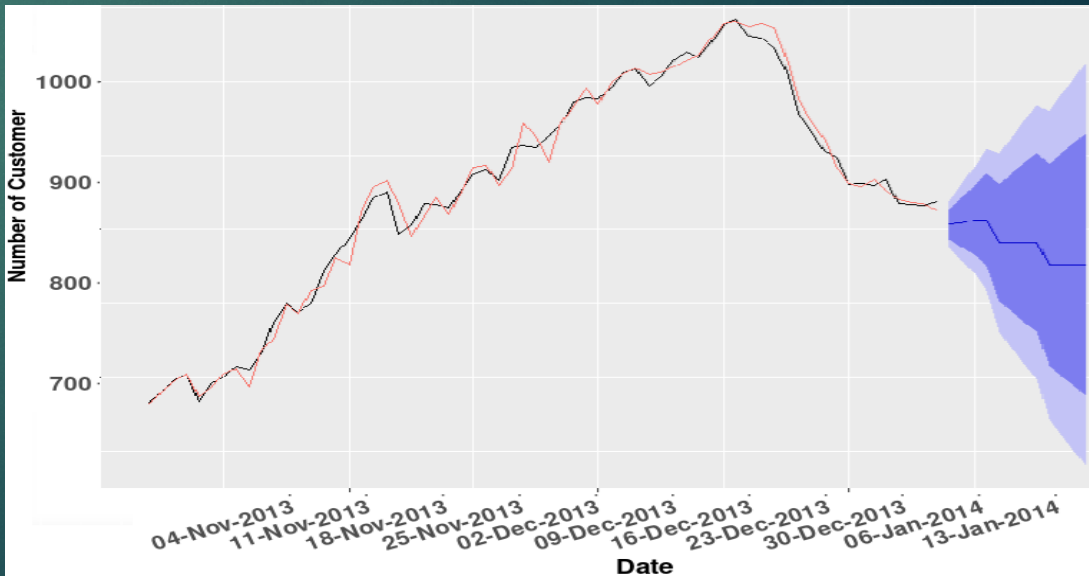**SALE**

10/18/2020   09:35 PM
Acct #xxxxxxxxxxxx9999
Account Saving   VISA   TYPE   DP
86415969250165
INTERACE

Trace #   6133190
Inv # 47824
Auth # 8574982   RRN 53635068020
TVR 8428407745   TSI 105778
TC EHGAYLNGECWOFV75

Sale $1203.49

Output: Analyze sales behavior across different day

DayOrder: 1st 2nd 3rd 4th 5th

2013-11 [Nov] | 2013-12 [Dec]

Y-axis: Number of Customer [Max-Min Range] (200, 400, 600, 800)
X-axis: WeekDay (Mon, Tue, Wed, Thu, Fri, Sat, Sun)

Output: Predict tomorrows sell across different hours

Sales Forecast - Coming Wednesday

Sales (€): 100 200 300 400 500

X-axis: Hour (6.00H, 8.00H, 10.00H, 12.00H, 14.00H, 16.00H, 18.00H, 20.00H, 22.00H)
Y-axis: Number of Customer (0, 20, 40, 60)

B	C
dateTime	Sales (€)
11/1/2013 23:59	€7.00
11/1/2013 22:50	€4.00
11/1/2013 5:00	€6.00
11/1/2013 5:45	€11.00
11/1/2013 5:45	€7.00
11/1/2013 6:00	€11.00
11/1/2013 6:00	€5.00

Output: Predict sell over upcoming days

Y-axis: Number of Customer (700, 800, 900, 1000)
X-axis: Date (04-Nov-2013, 11-Nov-2013, 18-Nov-2013, 25-Nov-2013, 02-Dec-2013, 09-Dec-2013, 16-Dec-2013, 23-Dec-2013, 30-Dec-2013, 06-Jan-2014, 13-Jan-2014)

Hotel

Restaurant

Super Market

ATM Booth

Industries which record sales time and amount minute-by-minute basis

Stock Market

Logistic

Ticket Counter

Target people to reach

- Demand Planning Manager
- Supply Planning Manager
- Restaurant Manager
- Call Center Manager
- Operational Manager
- Revenue Manager

It helps target people by
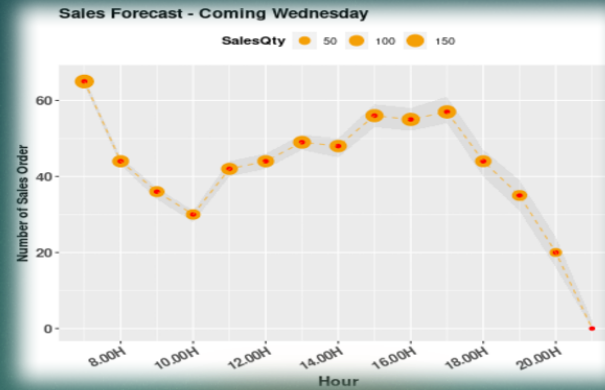
- Employee requirement planning
- Material requirement planning
- Set up a optimized product price

Benchmark with competitors

Companies ⟹ - - - - - - - - - - - - - - - Features ⬇	SaleForecast Riga, Latvia www.saleforecast.xyz	PipeDrive Tallinn, Estonia www.pipedrive.com	SAFIO Solution Brookfield, USA www.safiosolutions.com	SalesForce California, USA www.salesforce.com	TiMi Belgium www.timi.eu
Minute Data Analysis	✓	X	X	X	X
Hourly Forecast	✓	X	X	X	X
Daily Forecast	✓	✓	✓	✓	✓
Compute an effect of changing day light on sales	✓	X	X	✓	✓
Uses without Installation	✓	X	X	✓	X
Accessible to all device (Smartphone, Tablet, Laptop and Desktop)	✓	X	X	✓	X

Standout Point: To produce an hourly sales forecast from minute data is difficult due to a large volume of sales data, a different opening and closing hours of a restaurant in different weekdays, change of sales pattern with a change of a day light in different seasons. To deal with those difficulties, I use latest mathematical algorithms.
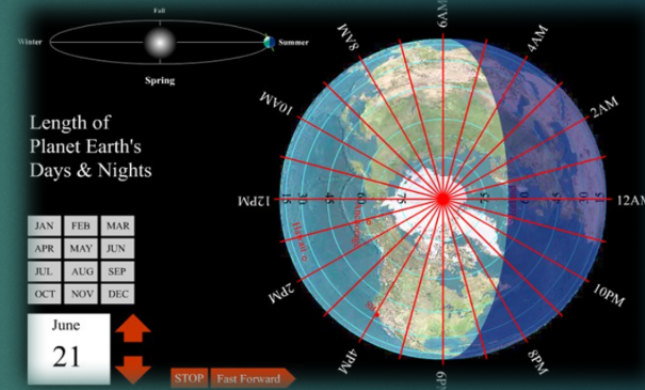
Provide hourly sale forecast

Analysis minute data

Compute an effect of changing day light on sales

Unique property that makes the software different

All you need is just to upload a minute data set.
Simple!

Product Structure

User Input

Upload a Data File or a Data Link From Web

Goes to →

Read File and Hourly Aggregation

1. Scan All the Columns of a Data File
2. Identify a Column Holding Time Stamp
3. Identify a Format of Time stamp
4. If a Time Stamp holds Minute Data, Aggregate It into Hourly Data and Calculate a Number of Sales Order Per Hour

Visualization →

Hourly Sales Insights

Visualize a Number of Sales Order Over an Hour, Weekday And a Correlation Between Sales Order and Sales Quantity

↓ **Daily Aggregation**

↓ **Weekday Separation**

Daily Sales Insights

Visualize a Number of Sales Order Over a Day, Week And Month

← **Visualization**

Aggregate a Number of Hourly Sales Order into a Daily Sales Order.

↓ **Arrange Data**

1. Separate Hourly Data According to Different Weekday.
2. Clean the Outlier and Fill the Missing Data.
3. Identify Hourly Trend, Frequency and Seasonality of Sales Data for Different Weekday.
4. Check the Strength of Seasonality and Variance of Trend to Identify Whether a Data is Stationary or Non-Stationary.

Forecast →

Hourly Sales Forecast

Based on the Seasonal Strength, Variability of Trend and Stationarity, choose a Best Algorithm to Produce an Hourly Sales Forecast for Different Weekday.

Daily Sales Forecast

Based on the Seasonal Strength, Variability of Trend and Stationarity, Select a Best Algorithm to Produce a Daily Sales Forecast for a Week.

← **Forecast**

1. Clean the Outlier and Fill the Missing Data.
2. Identify Daily Trend, Frequency and Seasonality of Sales Data for Every Consequent Week.
3. Check the Strength of Seasonality and Variance of Trend to Identify Whether a Data is Stationary or Non-Stationary.

Differences with competitors: The product from my business is fully automated, simple and online based. All a customer needs, is just to input a sales data set (left-top corner) and achieve a result within couple of second. Different algorithms are set internally such as to identify a column holding time stamp, find a format of time stamp, measure trend and seasonal strength of time series, minute to hour aggregation, cleaning outlier and filling missing value from input data. The aim is to make the data structured before generating a forecast. Once data is structured, based on the criteria of data, one of the five algorithms is selected to generate forecast. Competitors product is not fully automated. Moreover, they do not work on minute data. They work on Daily, Weekly and Monthly sales forecast.

Three Years Road Map

Target Market Area - EU

Subscription Based
Sales Plan

Price- 59 €/Month

Subscription agreement for 3, 6, 9 or 12 month

Deliver login access

Sales Plan for First 3 Years of Startup

Sales Plan	Month-1	Month-2	Month-3	Month-4	Month-5	Month-6	Month-7	Month-8	Month-9	Month-10	Month-11	Month-12	Total
Year -1	€ 59	€ 59	€ 118	€ 177	€ 295	€ 354	€ 431	€ 590	€ 708	€ 826	€ 944	€ 1,062	€ 5,623
Year -2	€ 1,180	€ 1,298	€ 1,416	€ 1,534	€ 1,652	€ 1,770	€ 1,888	€ 2,006	€ 2,124	€ 2,301	€ 2,478	€ 2,655	€ 22,302
Year -3	€ 2,891	€ 3,127	€ 3,363	€ 3,599	€ 3,835	€ 4,071	€ 4,307	€ 4,543	€ 4,779	€ 5,015	€ 5,251	€ 5,487	€ 50,898

Note: An income on 2nd year is based on the existing customer in year 1st + new customers in year 2nd. Similarly, an income on 3rd year is based on the existing customer in year 1st and 2nd + new customers in year 3rd.

Product Trial

Product Link:
https://saleforecast.shinyapps.io/prediction/

Minute Sales Data Link:
https://docs.google.com/spreadsheets/d/14XlSGy8s6Y9cu33kIUoMADSYxOmv7tVLirtAraLrqcs/edit#gid=0

Daily Customer Flow of Hotel Data Link:
https://docs.google.com/spreadsheets/d/1FL6JxJ1L-NBxt_1lfBk6KKQca_bB066l-UlzS2EPmP8/edit#gid=960400146

DailyCurrencyExchangeRate Data:
https://docs.google.com/spreadsheets/d/1lagKgvNgKrEvqZTxOIvV4_ZUy6bmjqz_GHfLd6JaBaE/edit#gid=0

One Column Numeric Data:
https://docs.google.com/spreadsheets/d/1DSgsFAONswuE5zUuuF73MXtqKUSBqJOWt3zVtbRtaUg/edit#gid=0

1.) Click on the Product Link.

2.) An input field (Upload Link) will appear in the left top corner.

3.) Copy One of Data Web Link and paste into the input field (Upload Link).

4.) Wait for a few seconds for results as sales data is big enough (54000 rows).

5.) Go through the next tab to see the hourly and daily sales forecast.
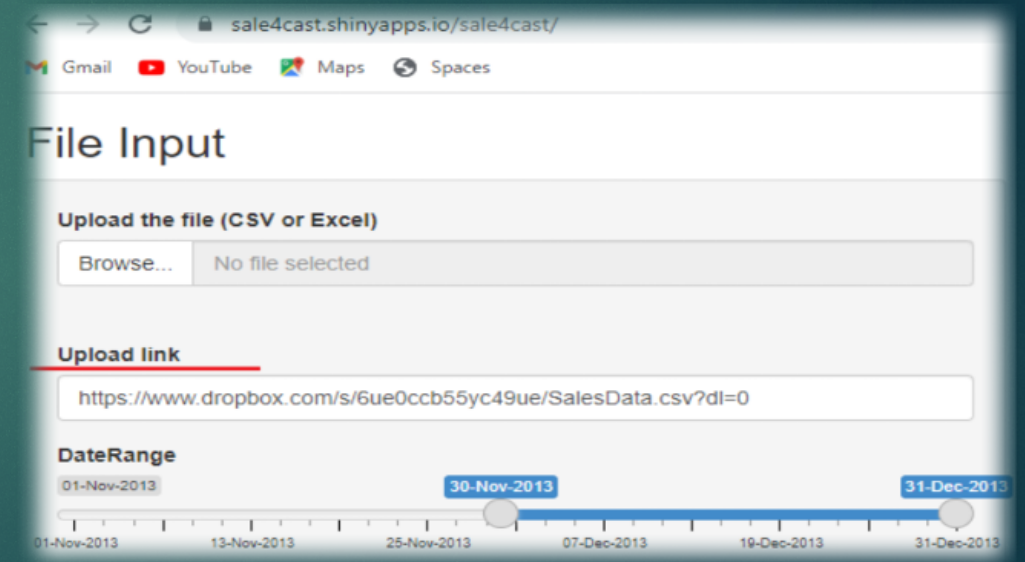
Accessible from smartphone, tablet, laptop and desktop.

Video demonstration: https://www.youtube.com/watch?v=WVZkRUXtWxA&t=4s

Md Shafiul Islam || Founder
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Registration Date: 09-01-2024
Tax Nr: LV08ZZZ40203531739
Location: Rīga, LV-1012 Latvia

Education

- B.Sc in Computer Science and Engineering, Chittagong University of Engineering and Technology, Bangladesh.

- M.Sc in Computational Engineering, University of Rostock, Germany

- PhD Candidate (2014-2018) in Chemical Engineering at Eindhoven University of Technology, The Netherlands

Speciality

- Mathematical Modeling & Algorithm Development

- Data Modeling & Predictive Analysis

- Web Scrapping and Market Price Analysis

- AI related Product Development